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ABSTRACT

A project regarding the interpretability of data on vocational education outcome data was done (1) to determine how different definitions of the vocational student and relatedness of training to employment might affect the interpretability of vocational education impact data; (2) to synthesize the current literature and approaches measuring job satisfaction and job performance; (3) to prepare a handbook on vocational education measures; (4) to prepare position papers on the sociopolitical issues underlying the interpretability issue; and (5) to hold a national conference to share the results of the aforementioned activities. The project conclusions include the following: vocational education program outcomes need to be closely linked to the values of individuals and groups concerned with vocational education; the originators of data concerning the outcomes of vocational education--the local education agencies--must be the users of the data in order for ultimate improvements in vocational education to result; in general, placement data are not collected systematically with an emphasis on precision and accuracy; and quality of instruction, relevance of program, impact of program, and individual transition and growth represent four categories of possible criteria for which vocational education might be held accountable. (This report includes a case study of differences in job placement rates reported by states, and the presentations and reactions at the national conference, including three commissioned project papers.) (EM)

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INTERPRETING OUTCOME MEASURES IN VOCATIONAL EDUCATION: A FINAL REPORT

A Project Funded by the
National Institute of Education

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FOREWORD

Interpreting outcomes of vocational education is a major concern of teachers, administrators, advisory councils, and policy makers for vocational education at all levels. The concerns focus on interpreting outcomes of vocational education in response to the requirements and intent of the Education Amendments of 1976 and to the need for viable vocational education programs and services to prepare individuals for employment.

The National Institute of Education recognized the confusion surrounding the interpretation of current vocational education outcomes data and contracted with the National Center to examine the interpretability of the data and examine other outcome measures. This final report of the project "Interpreting Outcome Measures in Vocational Education" provides a brief description of the project findings.

Recognition for their efforts is due to many persons including the project staff of Floyd McKinney, project director; Kenney Gray, research specialist; Marie Abram, graduate research associate; and Roseann Pavlick, secretary; the evaluation division staff including N. L. McCaslin, associate director and former acting project director; Jerry Walker, former associate director; Stephen Franchak, research specialist and other staff of the National Center for Research in Vocational Education. Significant contributions to the conduct of the project were also made by Robert Stump, project officer, the National Institute of Education; the national advisory committee for the project; Grant Venn, Mary Kievit, and Donald Drewes who prepared commission papers; Robert Billings who wrote a chapter of the handbook, Vocational Education Measures: Instruments to Survey Former Students and Their Employers; and Robert Morgan, George Copa, and John Jennings who joined the previously mentioned individuals in giving presentations at the national conference conducted by the project staff. The National Center is especially indebted to the many local and state vocational educators who participated in the case study portion of the project.

Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

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I. INTRODUCTION

PROBLEM AND BACKGROUND

The overarching problem for the project was the interpretability of vocational education outcome data. The problem of interpreting data on the impact of vocational education has been persistent and multifaceted. Congressional staff members, the National Advisory Council for Vocational Education and numerous other agencies have expressed concern about the interpretability of vocational education outcome data.

The reasons for difficulties in interpreting vocational education outcome data are numerous. Various reports have indicated there are problems of definitions, problems of communication and problems of handling data. Also, there is a lack of documentation concerning the processes used to collect placement data.

Many studies have expressed concern about the virtual impossibility of clearly interpreting data on the outcomes of vocational education. At the core of this problem is the lack of commonly accepted standard definitions of: (1) the vocational student; (2) relatedness of training to employment; (3) job performance (employers' views of former vocational students); and (4) job satisfaction (former students' views of their occupational and other life roles).

For "vocational student" and "relatedness," the major definitional--and subsequent, interpretability--issues stem from seemingly inconsistent and incomplete uses of the terms as operationally applied by state and local education agencies. The problems with "job performance" and "job satisfaction" stem not so much from inconsistent usage as from a dearth of measurement tools and processes by which one could even begin to grasp their operational meaning.

The project objectives and strategies evolved from the preceding problems. The project objectives were developed and the strategies were designed to determine the effects of the inconsistent and incomplete uses of "vocational student" and "relatedness" on interpretability and to begin to understand the complexities of measuring "job performance" and "job satisfaction."

OBJECTIVES

The project objectives were:

1. To verify inconsistent usage of the terms "vocational student" and "relatedness" among local vocational education agencies and state vocational education agencies.

2. To determine how different definitions of "vocational student" and "relatedness" might affect the interpretability of vocational education impact data (e.g., reported percentages of vocational students finding related employment after training) by using existing data bases.

3. To synthesize the current literature and approaches measuring "job satisfaction" and "job performance."

4. To prepare a handbook on vocational education measures.

5. To prepare position papers on the sociopolitical issues underlying the interpretability issue.

6. To share and discuss the results of objectives 1, 2, 3, 4, and 5 by means of a national conference.

7. To maintain contact with agencies with whom the project can contribute and benefit.

GENERAL PLAN OF OPERATION

OVERVIEW

Several strategies were used to accomplish the multifaceted goals of the project. These strategies included the use of a project advisory committee, liaison with other agencies and groups, a case study of the factors contributing to differences in placement rates as reported by states, commissioned papers, a National Conference on Outcome Measures for Vocational Education, and the development of a handbook, Vocational Education Measures: Instruments to Survey Former Students and Their Employers. A brief overview of these strategies is presented in the following sections of chapter one. A more detailed explanation of the strategies can be found in the remainder of this Final Report.

PROJECT ADVISORY COMMITTEE

Seven individuals representing a wide range of experience served as members of the project advisory committee. The committee members were:

Dr. Ralph Bregman
National Advisory Council for Vocational Education

Dr. John Grasso
West Virginia University

Dr. Donald Healas
Cleveland, Ohio Board of Education

Dr. Arthur Lee
Northern Arizona University

Dr. Robert Morgan
National Center for Educational Statistics

Dr. N. Alan Sheppard
Federal Council on the Aging

Dr. JoAnn Steiger
Steiger, Fink and Kosecoff, Inc.

Dr. J. Robert Warmbrod
The Ohio State University

The advisory committee met at the National Center on November 15-16, 1977. The committee provided recommendations concerning the analysis of extant data, the development of the position papers, selection of authors for the position papers, the planning and conducting of the conference, and the conducting of the case study.

In addition to the formal meeting in November 1977, the members of the advisory committee served as reviewers of the outlines and drafts of the position papers. Members of the advisory committee attended the conference and served as facilitators for the small groups and reactors for the major presentations. Frequent telephone conferences were held with committee members having expertise relevant to specific problems. The advisory committee provided a valuable link to the potential audience for the project products.

LIAISON WITH OTHER AGENCIES AND GROUPS

Throughout the project the staff attempted to remain in close contact with other individuals, agencies and organizations whose interests and responsibilities had implications for this study. Varying degrees of contact, through correspondence, telephone conferences, and personal contact, were maintained with individuals connected with Project Baseline, the National Longitudinal Surveys, the National Center for Educational Statistics, the Empirical Determination of Nationally Essential Educational Data Project, the National Center's Management Information Systems for Vocational Education Project, the National Occupational Information Coordinating Committee, the National Advisory Council for Vocational Education, the U. S. Office of Education--Bureau of Occupational and Adult Education, and numerous state vocational education agencies.

CASE STUDY

The overall purpose of the case study was to identify and describe the factors associated with the differences in job placement rates in field trained and related fields as reported by states.

The issue areas considered in the case study were: (1) background, (2) definitions of key terms, (3) process of collecting placement data, (4) utilization of placement data, and (5) placement function. For each issue area an extensive set of questions was developed which further clarified and delineated the issue.

The case study interviews were conducted in five state vocational education agencies and in ten local education agencies. A complete report of the case study is provided in Chapter II and in the Appendix.

COMMISSIONED PAPERS

Early in the project, three topics were selected to be dealt with in the form of commissioned papers. The topics and the authors were:

1. "Perspectivism in Choosing and Interpreting Outcome Measures in Vocational Education," Mary Kievit
2. "Outcome Standardization for Compliance or Direction: The Critical Distinction," Donald Drewes
3. "Criteria Against Which Vocational Education Should be Held Accountable," Grant Venn

The commissioned papers were presented at the Conference and are included in Chapter III of this report.

NATIONAL CONFERENCE

The National Conference on Outcome Measures for Vocational Education was held August 16-18, 1978 at the Galt House in Louisville, Kentucky. The Conference presentations and group reactions are presented in Chapter III of this report. A description of the activities undertaken to plan and conduct the Conference can be found in the Appendix.

VOCATIONAL EDUCATION MEASURES: INSTRUMENTS TO SURVEY FORMER STUDENTS AND THEIR EMPLOYERS

A handbook of instruments on: (1) job satisfaction, (2) job performance, (3) former students' perception of vocational training, and (4) employers' perception of student's vocational training was prepared. The handbook provides the practitioner with abstracts of instruments, copies of instruments, and a suggested method of choosing an instrument that fits the practitioner's purpose. The handbook also describes the concepts and complexities of measuring the four categories of instruments included in the handbook.

The handbook was distributed to the participants in the National Conference on Outcome Measures for Vocational Education. The handbook may also be available through the ERIC system and on a cost recovery basis from the National Center for Research in Vocational Education.

CONCLUSIONS, HYPOTHESES, GUIDELINES, AND RECOMMENDATIONS

The Interpreting Outcome Measures in Vocational Education project addressed a very diverse set of objectives. With limited resources it was necessary to focus on several issues central to the complex problem of interpreting outcome measures in vocational education.

The audiences interested in outcome measures in vocational education are also diverse. Complicating the effort to prepare materials for this diverse audience are the varying levels of the knowledge base concerning the interpretability problem by individuals within each audience.

As one considers the project conclusions, hypotheses, guidelines, and recommendations, it is important to remember the contextual features indicated above.

CONCLUSIONS

The following conclusions are based on the total scope of project activities.

- Vocational education program outcomes need to be closely linked to the values of individuals and groups concerned with and interested in vocational education.
- The originators of data concerning the outcomes of vocational education, the local education agencies, must be the users of the data in order for ultimate improvements in vocational education to result.
- If the data are useful to the provider of data, e.g., local administrators and teachers, then efforts will be put forth as necessary to collect accurate data.

- At the time of this study, extant data bases did not include sufficient information to permit an investigation of the effects of differing definitions on placement rates.

- The collection of placement data is viewed primarily as a compliance effort by personnel in state and local education agencies.

- In general, placement data are not collected systematically with an emphasis on precision and accuracy.

- Most vocational educators question the reliability and validity of placement data.

- There is a wide range of sophistication among personnel and data processing equipment concerning placement data collection at the state and local levels.

- Quality of instruction, relevance of program, impact of program, and individual transition and growth represent four broad categories of possible criteria for which vocational education might be held accountable.

- The variables which affect the quality of job performance are many, making it difficult to discern the effects of even very good vocational education. However, by (1) measuring dimensions of performance which are important for a given job and (2) measuring those variables which affect performance--motivation, skills, and role concept--a useful and understandable evaluation can be performed.

- Intrinsic motivation, job involvement, and beliefs about work are attitudes deserving increased attention by evaluators in vocational education.

- The effects of vocational education on job satisfaction are very complex and difficult to determine. By using three models of satisfaction (Lawler's component model, job/person fit, and met expectations), the effects of vocational education on job satisfaction can be studied and possibly analyzed.

HYPOTHESES

The following research hypotheses were generated as a result of the case study findings in the five states. These hypotheses represent ideas about what the next research steps might be concerning vocational education placement data. These hypotheses should form the basis for planning additional study.

1. A state's reported placement rates will decrease as the state implements a more systematic placement data collection process.

2. A state's reported placement rate will decrease as the individuals responsible for collecting and reporting the data view the effort more as information to be used for program improvement, rather than compliance.

3. As a consistent set of definitions for the key terms regarding placement data is developed there will be a decrease in the state's reported placement rate.

4. A state's reported placement rate will decrease as the state develops more specific policies, guidelines and instructions.

5. A state's reported placement rate will decrease as the state implements placement data collection strategies that use the former student as the primary source of information.

6. A state's reported placement rate will increase as the state implements a comprehensive and systematic placement system for current and former vocational education students.

7. A state's reported placement rate will decrease as the attitude toward collecting placement data reflects one of collecting data for program improvement rather than collecting data to be in compliance with federal, state and local regulations.

8. A state's reported placement rate will increase as the percentage of vocational education students enrolled in cooperative programs increases.

9. A state's reported placement rate will increase as the local vocational teachers' commitment for placing students increases.

GUIDELINES FOR USING PLACEMENT DATA AS REPORTED BY STATES

Based on the findings of the case study, the following guidelines are suggested for use by those individuals and groups using vocational education placement data reported by states. These guidelines are general and should not be construed to be specific to a given state. They should be used as a set of cautions to observe when using placement data as it is currently being reported.

1. Users of placement data should be very cautious when using placement data to make comparisons within and among states because of the numerous ways in which key terms are defined.

2. Users of placement data should be aware of the original source of the data, since there tends to be some difference in the way critical items are interpreted by former students in contrast to teachers or administrators.

3. Users of placement data should not automatically fault a vocational education program solely on the basis of placement rates.

4. Users of placement data should be aware of the placement services offered by the agencies from which they are using placement data since agencies with more highly developed placement services tend to have higher placement rates.

5. Users of placement data should determine whether or not the reported data include responses from graduates of vocational education programs and from non-graduates of vocational education programs.

6. Users of the placement data should be aware that in most instances the data have not been verified.

7. Users of the placement data should recognize that the job reported for a former student is but a step in the individual's total career path.

RECOMMENDATIONS

As a result of the findings of the project, the following recommendations are made.

- A continuing effort should be undertaken to ascertain the values expected of vocational education's various audiences and how vocational education could achieve appropriate linkage with these values.
- A major research effort should be planned and conducted to identify realistic criteria for which vocational education should be held accountable.
- Personnel development efforts should be initiated for preparing and updating vocational education personnel concerning the collection and use of placement data.

II. CASE STUDY OF DIFFERENCES IN JOB PLACEMENT RATES REPORTED BY STATES

INTRODUCTION

REQUEST FOR PROPOSAL AND THE PROPOSAL

The overarching problem posed in the National Institute of Education's request for proposal termed "Interpreting Outcome Measures in Vocational Education," was the interpretability of vocational education outcome data. In the proposal submitted by the National Center for Research in Vocational Education the problem of interpreting vocational education outcome data was addressed through the project objectives: (1) to verify inconsistent usage of the terms "vocational student" and "relatedness" among local vocational education agencies and state vocational education agencies and (2) to determine how different definitions of "vocational student" and "relatedness" might affect the interpretability of vocational education impact data.

In the National Center proposal, the assumption was made that access to and/or manipulation of extant data bases was not possible to the extent envisioned by the RFP. Investigations by the project staff revealed that extant data bases that will allow data manipulation to determine the impact of varying definitions do not exist. NIE concurred with this conclusion. In accordance with the provisions specified in the project proposal, the National Center project staff proposed a case study methodology as an alternative design for responding to the concerns relating to the aforementioned project objectives. NIE approved the case study alternative.

The case study methodology was used because it permitted an in-depth examination of the problems related to the interpretability of data concerning former vocational student placement in jobs related to their training. A distinct advantage provided by the case study approach was that it allowed the interviewer the opportunity to probe by asking additional and related questions. The opportunity to describe the factors associated with the difference in job placement rates in field trained and related fields was particularly significant because of the lack of previous documentation. There was speculation that certain factors may contribute to the difference in placement rates, but there was no documentation of these factors. It was not appropriate to conduct the study by use of a survey instrument. The survey instrument methodology assumes that all the appropriate questions to be asked can be identified in advance of the survey, which could not be done. In addition, the survey instrument methodology does not permit "on the spot" probing of a potentially significant area that could be uncovered during in-depth interviews.

There was little empirical evidence of the critical events and activities surrounding the state/local vocational education information collection, storage, and utilization processes. The case study methodology provided for documentation of certain factors associated with the determination of placement rates at the state and local levels.

The point emphasized in the proposal was that the state-of-the-art did not now permit hypothesis generation. Indeed, if all questions that should be asked could have been identified in advance, a substantially different approach would have been used for this phase of the project.

Study Questions

The question addressed by the case study was a description of the factors associated with the difference in job placement rates in field trained and related fields. The investigation contrasted the findings among those states with high, middle, and low job placement rates. The more specific questions addressed were:

1. What background elements can be identified as contributing to the differences in job placement rates in field trained and related fields?

2. How do the definitions of the terms vocational education student, dropout, completer, leaver and relatedness contribute to the differences in job placement rates in field trained and related fields?

3. What processes of collecting placement data can be identified as contributing to the differences in job placement rates in field trained and related fields?

4. How does the operation of a placement service contribute to the differences in job placement rates in field trained and related fields?

5. How does the utilization of placement data contribute to differences in job placement rates in field trained and related fields?

In addition, some attention was given to critical socio-economic and organizational features which may be significant in their contribution to the differences in job placement rates in field trained and related fields. The resources available for this effort do not permit an extensive probe of the socio-economic area given its enormity. It was the intent of this study to deal with those issue areas over which vocational educators may have more control and/or influence. Specificity of the issue areas is provided in the methods and procedures for conducting the case study described in the appendix.

Sample Design

By using Project Baseline data for 1975, three pools of states were determined: those with high job placement rates, those with middle level placement, and those with low job placement rates. Two states were selected from the high and low pools and one state from the middle level was chosen in order to examine job placement rates in a comparative fashion across five sites. Selection of states also took into consideration such factors as: (a) region or geographic location, (b) urban/rural character of the state, (c) state population ranking, and (d) size of state vocational education staff. Within each state two local education agencies were selected to participate in the study.

The criteria for selecting the local education agencies were:

1. A large school system and a small or medium school system.

2. The local education agency be located within a one hour drive of the state vocational education agency.

3. The local education agency have a designated director of vocational education.

4. The local education agency have at least four vocational service areas offering courses to students.

5. One local education agency have exhibited an interest in vocational education placement data and one have exhibited minimal interest.

FINDINGS

In the following presentation of the findings of the case study, states that had high placement rates are identified as States A and B. The state that had placement rates in the median range is identified as State C. States D and E had low placement rates.

BACKGROUND

High and Low Placement States

Enrollment. The states with high placement had vocational education enrollments equal to approximately one-third of their total secondary enrollments. Vocational programs were offered in the comprehensive high schools and area vocational schools with State B serving a significantly larger percentage of its students in area vocational schools than State A.

The enrollments in vocational education were over 40 percent of the total secondary enrollment in the state with low placement. Secondary vocational courses were offered only in comprehensive high schools in State D. State E offered vocational education in both comprehensive high schools and area vocational schools.

Organizational Posture. Vocational education in the states with high and low placement was administered as an organizational unit within each state department of education. In the states with high and low placement, responsibility for conducting student follow-up studies was located within a nonprogram unit which performs evaluation and related support services for all of vocational education. Collecting the student follow-up data was typically a one- or two-person responsibility and was three to four levels below the state director or head of vocational education within each state. In States A, D, and E data processing services for tabulating the follow-up data were obtained from another division of the state department of education, state government, or an educational institution. State B, with relatively large vocational enrollments, used desk calculators to process and analyze follow-up data to avoid the time delays and errors associated with the state's data processing services.

Middle Placement State

Enrollment. State C with the middle rate of placement had over one-third of its students enrolled in vocational courses. Area vocational schools served about one-third of the total secondary vocational students and comprehensive high schools served the other two-thirds of the vocational enrollment at the secondary level.

Organizational Posture. Vocational education operated under a separate state board and was not an organizational unit of the state department of education. Collecting follow-up data was the responsibility of an evaluation person three levels below the position of the state director of vocational education. Vocational program area personnel shared in the responsibility to collect follow-up data more than vocational program area personnel in the states with high and low placement.

Financial Resources

High and Low Placement States

The states with high placement differed considerably in the percentage of financial support from local, state, and federal sources. The approximate relative amount of financial support for State A was 25 percent local, 55 percent state, and 20 percent federal; compared to 85 percent local, 6 percent state and 9 percent federal for State B. State A reported having turned down requests from local schools for over 150 vocational education programs due to shortage of funds. State B turned away 15,000 students (at 45 students per program this figure is equivalent to over 330 programs) due to lack of funding for local programs.

Sources of funding for State D were about 90 percent from local and state sources and 10 percent from federal, while State E had 62 percent local, 24 percent state and 14 percent federal funding of its programs. No information was obtained on unmet requests for vocational instruction programs for the two states with low placement.

Middle Placement State

State C's financial support was 83 percent from state and local and 17 percent from federal sources.

Attitudes Toward Evaluation

High and Low Placement States

The attitudes toward evaluation across states varied from little interest and commitment to great interest and commitment. The concern to meet the federal requirements for follow-up of former vocational students seemed to be the impetus for the evaluation efforts. The less than enthusiastic attitude appeared to be fostered in part by distrust of the data collected.

Middle Placement State

Attitudes toward evaluation expressed by interviewees in State C were that the follow-up was necessary to meet federal requirements and they questioned the accuracy of data collected.

Cooperative Education

High and Low Placement States

States reported that students enrolled in cooperative education programs often continued in their job on a full-time basis after they graduated. The approximate percentage of students enrolled in cooperative education was: State A, less than 10 percent; State B, 30 percent; State D, 20 percent; and State E, less than 10 percent.

Middle Placement State

Interviewees in State C reported that approximately 15 percent of the secondary vocational education enrollment was engaged in cooperative education programs.

Perceptions Toward State Vocational Education Agency

High and Low Placement States

Interviewees were queried and observed as to their perceptions toward the state vocational education agency in each state, in terms of the leadership versus regulatory (enforcing state and federal regulations) roles. The states with high placement tended to be perceived as "regulatory" in their relationship with the local agency and the states with low placement tended to be perceived as "leadership" oriented in their functioning. This description of perceptions was used to indicate tendencies or developing viewpoints, not firm administrative patterns.

Middle Placement State

Perceptions within State C were largely a mix of "leadership" and "regulatory" functioning. No strong tendencies suggested a singular viewpoint.

Unemployment Conditions

High and Low Placement States

States A and B with the high placement rates varied in their rates of unemployment. State A had unemployment typically near the national average while State B's unemployment rates exceeded the national unemployment rate as well as the national rate for most age, minority, and sex subgroups. State B, however, reported that skill level labor demand had remained strong through a period of overall high unemployment.

States C and D, with low rates of placement, had rates of unemployment which were equal to national rates and tended to follow most overall subgroup changes.

Middle Placement State

Rates of unemployment in State C were a very close reflection of the national rates.

Summary

Table 1 indicates that all five states offered vocational education in comprehensive high schools but only four states offered programs through area vocational schools. State D, a state with low placement rates, did not have any area vocational schools.

Vocational education was administered through state departments of education in the states with high and low placement rates but was administered under a separate state board in the middle placement state.

Financial support tended to be a mix across states with a high level of local finances used in a state with a high placement rate and a state with a low placement rate. Conversely, one state with low placement and one state with high placement had low levels of local support.

Attitudes toward evaluation in all states tended toward compliance fulfillment with the two states with low placement exhibiting a desire to use evaluative findings for accomplishing program improvements.

Cooperative education enrollments were varied. One state with high placement and one state with low placement reported less than 10 percent of student enrollment in cooperative programs and one state with high placement and one state with low placement reported 20-80 percent of students enrolled in cooperative programs. The middle placement state's enrollment in cooperative education was about midway between the levels of the states with high and low placement.

The leadership posture of administrators seemed to be stronger in states with low placement. States with high placement reflected more concern with regulation of enforcement than leadership.

The factors described in the background on the states are summarized in Table 1, "Background Factors by States." A discussion of findings on definitions of key terms, processes used in collecting follow-up data, placement services, and the utilization of data are presented in the following sections.

Table 1

Background Factors by States

Factors	States				
	High Placement Rates		Middle Placement Rates	Low Placement Rates	
	A	B	C	D	E
Types of Schools					
Comprehensive	X	X	X	X	X
Area Vocational Schools	X	X	X		X
Vocational Education Administered Through					
State Department of Education	X	X		X	X
Separate State Board for Vocational Education			X		
Financial Support					
Local - 50% or more		X			X
State - 50% or more	X				
Federal - 5% to 20%	X	X	X	X	X
Attitudes Toward Evaluation					
Program Improvement Leader					X
Cooperative Education Enrollments					
Under 10%	X				X
10% to 20%			X		
20% to 30%		X		X	
Perception of SDVE Role					
Leadership			X	X	X
Regulation Enforcement	X	X	X		
Unemployment Rates					
National Average	X		X	X	X
Above National Average		X			

DEFINITIONS OF KEY TERMS

Comparison of Official Definitions with Those in Actual Use

The key terms for which definitions were obtained included "student," "completer," "leaver," "dropout," "occupational titles used to describe the jobs of former students" and "relatedness of employment to training received." Official definitions were compared with the definitions actually used. An official definition is one that was written in an agency's memoranda to state or local personnel, documents of policies and procedures, data collection instruments and accompanying instructions, annual or long range plans, or administrative handbook. Definitions actually used may or may not have been the same as official definitions. Definitions actually used were obtained by observing the various applications of terms and obtaining verbalized definitions of terms as used and understood by state and local vocational education personnel. Considerable confusion surrounded the official and actual use definitions addressed by the study.

Student

High, Middle, and Low Placement States. None of the states included in the study had written official definitions of the term "student" but all operationally defined the term as anyone who is enrolled in a federally and/or state reimbursed program. There were varying requirements that programs had to meet to be reimbursed. Requirements such as the hours in a course per day, week and/or a year; certificated teacher; and minimum facilities. There were no guidelines at the state level as to when an enrollee is a student, i.e., when preregistration occurs; attending class one day, a week, or a month. Local school policies operationalized this aspect of the definition by a point in time during the first month or whenever official enrollments were reported. Differences in time that enrollments were reported could have contributed to differences in enrollment and subsequent dropout and completion data as students discontinued their training at varying times in the first months of the school year. In State D there was some reluctance among local education agency personnel to label programs or students as vocational.

Completer

High Placement States. The official definition of "completer" for States A and B was the federal definition of the term. State agencies actually used the definition developed by the Committee on Definitions of the National Association of State Directors of Vocational Education (NASDVE) which is that "a student is a completer who pursues occupational training for the duration of the course of study or until he/she has gained occupational proficiency for and obtained employment." The logic of this definition as substantiated by state interviewees was that a student is a completer when (1) a full course of study has been successfully completed regardless of high school graduation or (2) any part of the course or study has been completed and the student discontinues his/her training and obtains employment. A student was not regarded as a completer if enrollment in an occupational program was terminated and employment was not obtained.

Local education agencies tended to count completers as those students who complete all of a course of study and graduate from high school. This definition did not recognize a student who passes the eleventh grade as a completer even though he/she had completed all of a vocational course of study and was employed.

Middle Placement State. "Completer" was the most frequently mentioned term with a definitional problem in State C. While the federal definition for completer was printed on the state's follow-up form, it was unclear to most interviewees. If the completer was a high school graduate, there was no confusion. But there was a large problem with employment prior to graduation when all of the program offerings had been completed. Briefly stated, a person leaving school prior to graduation was a leaver. If he or she obtained employment, the student became a completer. Most interviewees used employment in the first few months to one year after leaving school as the period to determine whether a student was a leaver or completer. One interviewee used this criterion: any employment in the three years following school.

Low Placement States. The official definition of a program completer in State D was "a student who finishes a planned sequence of courses, services or activities designed to meet an occupational objective and which purports to teach entry level job skills." Local personnel generally interpreted this definition to mean a high school graduate.

State E did not have an official definition of completer nor make reference to the federal definition. However, it was generally accepted that a completer was one who completed a planned sequence of training ranging up to two years. Some local agency personnel contended that a vocational education completer and high school graduate were the same.

Leaver

High Placement States. States A and B differed in the definition used for leaver. State A defined leaver as the same as dropout and State B defined leaver as a student who discontinued (left) a vocational course of study but continued as a student of other programs in the school. Personnel in local education agencies generally expressed unfamiliarity with the term.

Middle Placement State. There was no official definition of leaver in State C and no common definition was used. "Leaver" and "dropout" were often used interchangeably.

Low Placement States. State D officially defined a program leaver as "a student who has been enrolled in and has attended a program of vocational education (which in part is a planned sequence of courses, services or activities designed to meet an occupational objective and which purports to teach entry-level job skills) and has left the program without completing it, except that no student shall be counted as a program leaver who is still enrolled in another program of vocational education." The majority of the interviewees at state and local levels, however, indicated that they did not use the term or had never heard of it.

State E did not have an official definition of leaver. But the term was commonly used to designate persons who (1) left a vocational course to return to comprehensive school; (2) left school altogether; or (3) left one program to go to another. In brief, it was leaving any program without completing it.

Dropout

High Placement States. None of the states in the study had a written definition of "dropout." States A and B used the following definition of dropout: "a student who terminates or discontinues school enrollment prior to graduation and does not obtain training related employment." Local education agency personnel used this definition of dropout: "any one terminating school and not graduating regardless of employment status."

Middle Placement State. "Dropout" and "leaver" were often used interchangeably.

Low Placement States. In State D, "dropout" was used to designate anyone who leaves a program before its completion. Some interviewees said it was "leaving before graduation." But, for the student who dropped out of one vocational program and entered another program, there was no indication of whether the teacher of each program was to report the student as a dropout or a leaver. In State E, "dropout" was used to describe any person terminating before completing the course of study or graduating.

Occupational Titles

High, Middle, and Low Placement States. None of the states in the study had official guidelines as to the occupational titles that were used in identifying type of employment their former students obtained. State personnel realized that occupational titles are provided by the Dictionary of Occupational Titles and the census; and that occupational titles unique to local and area labor markets often arise and are used. However, state and local education agency personnel generally used the U. S. Office of Education program codes to designate the job title of former students, even though local education agency personnel had a particularly limited knowledge of the U. S. Office of Education program codes. In brief, whatever a former student called herself/himself on the job was the occupational title reported in student produced data. In teacher provided data, the occupational title was simply what the teacher called the student's work.

In State D, interviewees reported confusion with state and local program cluster designations which were different from U. S. Office of Education program codes.

Relatedness

The relatedness of former students' employment to their training program was not officially defined in the five states included in the study.

High Placement States. At the state or local levels in high placement states, actual use of the term "relatedness" included any occupation within a U. S. Office of Education program code category such as distributive education. Frequently a former student's occupation was counted as related to previous vocational training due to commonalities of work such as human relations, personal discipline, and appropriate work attire. There did not appear to be a central theme for identifying relatedness. Several interviewees indicated that relatedness was a common term that had been used for so long that there was no need to define it. However, it is important to note that several definitions were being used for this key term.

Middle Placement State. There was no official definition of relatedness of employment to training identified in State C. The determination of relatedness was made by the teacher. Teachers used broad interpretations in defining relatedness.

Low Placement States. State E asked students to indicate the relatedness in terms of how much they used their vocational training in their current job, using a four point scale. The top two points of the scale were considered "related" and the bottom two points of the scale were "unrelated." However, in States D and E there was lack of consensus and considerable confusion concerning the definition of relatedness.

Influences Contributing to the Formation of Definitions

High and Low Placement States

The U. S. Office of Education was the principal influence in the formation of definitions. Generally, the written definitions of terms used were those which had been developed by the U. S. Office of Education, Bureau of Occupational and Adult Education. When a term had not been defined by the U. S. Office of Education, states typically involved local administrators and teachers in defining terms.

Middle Placement State

State C relied heavily on federally derived definitions but the state agency was active in attempting to develop definitions of terms not defined by the federal agency. Effort was being exerted with some local involvement to define "dropout" as distinguished from "leaver" and to clarify the definition of "completer."

Federal

The U. S. Office of Education, Bureau of Occupational and Adult Education relied primarily on the law and legislative committee reports in the development of definitions and attempted wide involvement of the vocational education professional community. Creating, deleting, or combining definitions followed this legislative and professional community involvement.

Strategies Used to Communicate Definitions of Key Terms

High and Low Placement States

The communication of definitions of key terms was accomplished through four strategies. These were:

1. Instructions which accompany the forms or instruments used to collect follow-up data.

2. Conferences/workshops held annually in each state. States with high placement had one or two conferences/workshops annually and states with low placement had three or four conferences/workshops annually. Usually a small fraction of the conference time was provided for discussing definition of terms and other materials used in the collection of follow-up data.

3. Informal personal communication among state and local personnel. This strategy was a natural part of interaction at the local level among teachers, counselors, and administrators, and interaction among these local individuals and their state or regional agency supervisor or consultant.

4. Annual evaluation reports, which included certain definitions of terms central to the collection and reporting of placement data were prepared by States A and D. Evaluation reports were not a strategy for communicating definitions in States C and D.

Middle Placement State

Strategies to communicate definitions of key terms in State C included: (1) instructions on the follow-up forms, (2) an average of three workshops annually where some time was given to collection of follow-up data; and (3) informal personal communication among state and local education agency personnel.

Federal

Personnel in the U. S. Office of Education, Bureau of Occupational and Adult Education used two strategies to communicate definitions of key terms. First, a workshop was held annually in each region involving personnel in the Bureau of Occupational and Adult Education, the regional office staff, the state director of vocational education, and his/her evaluation specialist regarding the form used to report state follow-up data including detailed definitions and discussion of key terms.

Second, the staff participated in the May and December meetings of state directors of vocational education through formal presentations and discussions and informal personal contacts to present any new definitions and to clarify previously defined terms as needed.

Monitoring and Evaluating the Use of Definitions

High, Middle, and Low Placement States

Generally, monitoring and evaluation of definitions currently in use can be characterized as nonsystematic and uncoordinated. However, in many cases, monitoring and evaluation were described as nonexistent except for data processing or another office checking of the data for obvious mistakes or inaccuracies. Some interviewees questioned the need to monitor definitions due to the lack of standard definitions.

Federal

The U. S. Office of Education, Bureau of Occupational and Adult Education reviewed the definitions used by states in the Management and Evaluation Review for Compliance (MERC) which is conducted in each state every five years. Thus, definitional changes were assessed in ten states during the first year following any change to determine its usage and success or problems. Further, the regional office staff had opportunities annually to review state reports to determine the definitions used in each state.

Summary

In the five states included in this study, there was a paucity of official definitions to guide the collection and interpretation of follow-up data in vocational education. Concurrently, the state and local staffs were using definitions which they had created incrementally and are struggling to preserve the wording and interpretations with which they have had professional involvement and identity.

One school administrator noted, "I have been calling this course nonvocational for 25 years and I'm not changing it now to the vocational classification to serve a new reporting purpose." This viewpoint reflects the professional rigidity and vested interest in the use of definitions and the lack of attention that was given to definitions by most persons associated with the collection of placement data.

The only term included in this study that has been federally defined was "completer." However, all states in the study displayed considerable confusion over the application of the definition of "completer" particularly as used by local education agencies when reporting data on former students. The middle and low placement states were more serious in their efforts to clarify the use of the term "completer" than states with high placement. However, most interviewees did not use nor were they aware of the federal definition of the term.

"Leaver" was perceived as more of a problem and was receiving more corrective attention in the states with middle and low placement states than in the states with high placement, even though it was a problem common to all states of the study.

"Student," "dropout," "relatedness," and "occupational titles" were not defined in writing and, as a result, received different interpretations and uses across the states.

The principal influence in the formation of definitions was the rules and regulations to federal legislation and the U. S. Office of Education, Bureau of Occupational Education.

The principal strategies used to communicate definitions of key terms were common to all states and included instructions on the data collection forms, annual or quarterly workshops, and personal contacts among state and local personnel.

Monitoring and evaluating the use of definitions was, with very few exceptions, nonexistent in the five states studied. The process of collecting placement data, the function of placement services, and the utilization of placement data are discussed in the following sections of the findings of the study.

PROCESS OF COLLECTING PLACEMENT DATA

General Processes Used in Planning and Conducting Placement Studies

High Placement States

The process used to collect placement data in the states with high placement rates can be characterized as minimal and unsystematic. The collection of placement information in both states was viewed as a compliance effort.

In State A, enrollment data were collected in October. In early May, the vocational teachers indicated the dropout and/or completion status of the students. Six months later, a computer listing of completers was mailed to the teachers. On the computer listing of former students, the teachers provided information regarding the placement status of former students. The state vocational education agency imposed no systematic process for collecting the data. The teachers were responsible for collecting the placement data.

Teachers in State A obtained placement information in various ways. The processes used by teachers to collect placement data varied among school systems and among teachers within a school system. No evidence was found that indicated a systematic mail follow-up system was used by teachers to collect placement data. The most frequently mentioned source of data was the teacher's "knowledge" of the job being held by former students. Teachers indicated they secured placement information from personal visits by the former student, through employers, telephone calls to former students' homes, and through friends. Some local administrators in State A expressed concern about whether teachers were obtaining valid placement information.

In State B, the state vocational education agency sent forms to local education agency administrators in October. These forms were completed by the teachers or other individuals on vocational education graduates in the previous years. A state vocational education agency official noted that it is a matter of local option as to whether the local education agencies complete the form. If the local education agency does not cooperate, there is some threat that the state vocational education agency will cease funding vocational education programs, but, in reality, this never happens.

The interviewees in the state vocational education agency in State B were unaware of the process used by teachers to secure placement data. Officials at the state level believed most local education agencies conduct a one-year follow-up by use of a postcard. The effort was viewed as one of securing compliance information only.

Middle Placement State

In the middle placement state, the source of placement data was the vocational teacher. The process of collecting placement data varied somewhat among local education agencies, depending mostly on the size of the district. In general, the local education agency forwarded the information to the state office. Feedback to local education agencies can be characterized as very haphazard. The statement was made frequently at the state, regional, and local level that there was no organized statewide process for collecting placement data.

The process used to collect placement data was coordinated with the statewide student enrollment system. In August a student roster form was distributed to vocational teachers. The roster (vocational education class roster) was distributed to all secondary schools, state vocational-technical schools, and state universities with vocational programs. Early in the school year the form was completed by the teachers and returned through the regional office to the state office. At the end of the school year, the form was returned to the vocational teachers and they were asked to indicate the termination status of each student. The succeeding January these rosters were mailed to each vocational teacher for use in collecting placement information on former students. The placement information on former students was recorded as of February 15.

There was unanimous agreement among state, area, and local personnel that there was not a good system for collecting placement data. The system in use was completely dependent on the teachers supplying the information on former students. Teachers appeared to be very individualistic in the way they kept placement records. The teachers tended to know more about the better students and seemed to ignore the dropouts. Little effort was expended to locate former students. If the placement status of a former student was not known, that individual was marked as "unknown" on the reporting form. Some forms had been returned indicating the placement status of an entire class was unknown.

Low Placement States

There were considerable differences in the processes used to collect placement data in the two states with low placement. However, it appears the process in both of the states with low placement was more systematic than that of the states with high placement.

In State D, the state vocational education agency requested all schools to conduct a follow-up of their vocational graduates. The state agency supplied follow-up forms to the local schools. It was not compulsory for the local schools to conduct the follow-up and some schools elected not to participate. In the participating local schools, the follow-up form was sent to a random sample of 25 percent of the former students. Statewide, there was about a 25 percent rate of return on the follow-up.

In State E, a systematic, thorough and rather closely monitored one-year follow-up was conducted. In February, follow-up was conducted on all of the graduates of the previous June. Leadership for development and continuing coordination of the system was provided by the state vocational education agency. State and local education agencies placed considerable emphasis on securing a high response rate on the follow-up. The percent return on the follow-up was 70-80 percent.

Local education agencies in State E began the process of conducting the follow-up in December with the mailing of the follow-up instrument. If the instrument was not returned in two weeks, a postcard reminder was mailed to the graduate. The third contact was made by telephone.

State Policies Concerning Placement Studies

High Placement States

Most state and local personnel in State A indicated that state policies for placement studies did not exist. A few personnel in State A did believe that there were unwritten policies concerning placement studies. Although personnel appear not to have been aware of written policies concerning placement studies, state law has required that the Legislative Council and the Interim Education Committee be furnished follow-up placement data on students who graduated from vocational education programs.

State B had no policy concerning placement studies. The effort was voluntary and viewed as an activity needed to comply with federal regulations. The collection of data from public schools was strongly controlled by the state education agency.

Middle Placement State

The middle placement state does not have an official policy concerning the collection of placement data.

Low Placement States

In State D, there is no policy concerning placement studies. The state vocational education agency encouraged follow-up studies but did not exert strong pressure on local agencies.

In State E, local education agencies tended not to have policy statements about placement studies, but most individuals were aware of the state mandate for follow-up. State legislation, statements in the State Plan for Administering Vocational Education, and criteria in the State Program Standards of Quality provide the basis of policy for follow-up in State E. A publication of the state vocational education agency indicated the follow-up is: (1) to provide information helpful to making decisions about the improvement of vocational education programs, (2) to enable agencies to obtain a more complete and accurate indication of what happens to former students, and (3) to assist local agencies to measure the effectiveness of their programs.

STATE GUIDELINES FOR PLANNING AND CONDUCTING PLACEMENT STUDIES

High Placement States

In State A, the local schools were provided with an instruction sheet. The instruction sheet contained guidelines for local teachers to use in completing the state's former student follow-up. Several local school personnel were unaware of any guidelines provided by the state vocational agency.

In State B, guidelines for providing information about former students were provided the local schools. State agency personnel indicated that the guidelines were ambiguous and frequently change. In addition, state personnel believed little use was made of the guidelines. At the local school level in State B it was thought that the teachers or counselors who collect the data were not provided guidelines.

Middle Placement State

A very fragmented picture exists in regard to guidelines in State C. Interviewees reacted to questions concerning guidelines with responses ranging from "there are very detailed procedures" to "no guidelines exist." In fact, very few guidelines did exist. Most "guidelines" that were available were included as a part of the vocational class roster and these guidelines were concerned mostly with the details of properly completing the form. It appears there was much latitude within the different regions and within local education agencies in each region.

Low Placement States

In State D, minimum guidelines were provided, in part, because of the limited involvement of local education personnel in the collection of placement data.

In State E, handbooks with specific procedural guidelines for conducting the follow-up were provided by the state vocational education agency. Local vocational education personnel were aware of the handbook and appeared to use it extensively.

Assistance Available for Planning and Conducting Placement Studies

High Placement States

In the states with high placement, no systematic effort was underway to provide assistance to those individuals responsible for collecting placement data. The state vocational education agencies in States A and B provided minimal assistance as a minor part of either regularly held regional or statewide conferences on vocational education. Local personnel in States A and B were unaware of assistance provided by the state agency. In State A, local personnel indicated that during visits of state supervisory personnel there was never any discussion of the placement data submitted to the state office.

Middle Placement State

There was no systematic and comprehensive program in operation to provide assistance to regional or local vocational education personnel responsible for planning and conducting placement studies in State C. The staff in State C had provided assistance in the form of one or two hour sessions on an irregular basis for the regional personnel designated to coordinate the collection of placement data. The regional personnel related to local education agency personnel. Their assistance tended to be a one-to-one effort. On an irregular basis, local teachers received assistance from regional personnel or their local education agency central staff on a one-to-one basis. A concurrent session on occupational information was usually provided at the biennial statewide vocational education conference.

Low Placement States

In State D, there was very minimal assistance provided by the state vocational education agency to local education personnel. In State E, an individual in the state vocational education agency was responsible for coordinating the placement study efforts. Assistance for conducting placement studies was coordinated through this individual's office. The state vocational education agency provided annual inservice meetings for area personnel who had placement study responsibilities. The area personnel provided assistance to local education agency personnel.

Roles and Responsibilities for Conducting Placement Studies

High Placement States

In State A, the state vocational education agency had the responsibility of developing and providing the format for the data needed from the local education agencies. Local vocational education teachers were responsible for securing the placement data. In the state vocational education agency, there seemed to be a realization that more standardization, control, and supervision of the placement study effort is needed.

In State B, the responsibility for conducting placement studies rested with the local education agencies. The state vocational education agency assumed the responsibility for providing the format for data reporting.

Middle Placement State

The role of the state vocational education agency in State C was that of provider of forms and compiler of data. The local education agencies were charged with collecting the placement data. Generally, the data were collected by the teacher, although guidance counselors or secretaries may have been involved. The local education agency forwarded the data to regional offices who in turn forwarded it to the state vocational education agency. The regional office served as a conduit between the local schools and the state.

Low Placement States

In State D, the state vocational education agency was responsible for selecting the sample of former students to be included in the follow-up and for providing instruments and mailing labels to the local education agencies. The local education agencies were responsible for mailing the instruments to former students.

The development and coordination of the follow-up system in State E was the responsibility of the state vocational education agency. The state vocational education agency exhibited a strong leadership role concerning former student follow-up. Area school personnel were responsible for conducting and/or assisting local education agencies in following up their vocational education graduates.

Resource Allocations for Placement Studies

High Placement States

In the high placement states, no resources, other than those resources needed for instruments and mailing costs in State B, were specifically allocated for the collection of placement data. The placement data collection responsibilities had been assumed by individuals with other major responsibilities.

Middle Placement State

In State C, staff members of the state vocational education agency and area staff had major responsibilities for planning and coordinating placement data studies. Minimal financial resources were available at the local level.

Low Placement States

In State D, limited resources, other than resources needed for instruments and mailing costs, were specifically allocated for the collection of placement data. At the state level, it was the major responsibility of a staff person to coordinate the collection of placement data.

In State E, financial resources were made available at the state, area, and local levels for coordinating and conducting placement studies. The conduct of placement studies could be financed by local education agencies from the 5 percent added cost funds they received from the state vocational education agency.

External Influences Affecting Placement Studies

High, Middle, and Low Placement States

The U. S. Office of Education requirements concerning placement data were considered to be the most significant influence on the process of collecting placement data. In all of the states studied, the local vocational education agencies identified the state vocational education agency as the chief external influence affecting the placement study process. These external influences were not surprising in view of the fact that a majority of those interviewed expressed the viewpoint that each level was engaged in a compliance effort.

Monitoring and Evaluating Placement Study Efforts

High Placement States

In State A, supervisors in the state vocational education agency reviewed the placement reports submitted by the local education agencies. The review was cursory and no attempt was made to monitor the process of collecting the data or to verify the data. In the local education agencies there was no evidence of procedures being used to verify the data. No monitoring of the process of collecting the data or verification of the data occurred in State B.

Middle Placement State

There was virtually no monitoring or evaluation of the data collecting process in State C. Interviewees reported that in some areas it appeared that the placement data were "adjusted."

Low Placement States

In State D, there was no monitoring of the process of collecting the placement data or verification of the data. In State E, there was no verification of the data. The process for collecting the data in State E was rather specific, allowing the state vocational education agency to monitor extensively the collection of the data.

Problems

High, Middle, and Low Placement States

All levels of personnel interviewed were asked to state the problems they encountered in the process of data collection. The following problems were identified in the high, middle, and low placement states.

1. The quality of the data was questioned in all states. No individual interviewed was willing to say that the data were valid.
2. There was a lack of information about the non-respondents.
3. Little to no effort was made to secure information about the leavers.
4. The period of time during which placement data were collected resulted in the students not having been out of school long enough to be employed or to be employed in an occupation in which they will remain for a very long period of time.
5. There was lack of information about the individuals who do not graduate.
6. There were no longitudinal placement data studies under way in any of the states.

In addition to the above problems, in State A the following problems were noted.

1. State vocational education agency personnel generally believed that local teachers do a poor job of conducting follow-up studies.
2. There was no systematic follow-up process.

3. Insufficient funds were available to conduct the placement studies.

4. There was a lack of a clear set of instructions for conducting follow-up studies.

In State B, the following additional problems were reported.

1. A number of interviewees expressed the belief that the data were altered at various levels.

2. Too frequently the reported data were nothing better than a guess.

3. Response from former students tended to be from the high achieving students and from the low achieving students.

4. There was lack of a systematic process for following-up former students.

5. The placement data collection effort was viewed as a compliance effort.

6. There was too much reliance on manual data collecting and processing.

In State C, the following additional problem was reported.

1. Local education agency personnel, especially teachers, did not see the relevance of the data beyond compliance with administrative orders.

In State D, the following problems were frequently cited.

1. An extremely low percent of return on follow-up.

2. Insufficient time and money to conduct follow-up studies.

No additional problems were reported by the interviewees in State E.

Planned Changes

High Placement States

In State A, future plans included: (1) following up nongraduates, (2) conducting a follow-up three years after a student leaves school, and (3) conducting an employer survey.

In State B, it was hoped that changes could be made that would result in more uniformity of data collection. Future plans call for more direction from the state vocational education agency.

Middle Placement State

A new evaluation program has been pilot tested for the past two years and will be operationalized statewide in 1979-1980. The process of collecting placement data under the new system has been evaluated throughout its pilot phase and changes have been made. The new program was built upon the philosophy that a region should keep useful components of its present system and adopt helpful components in the new program.

The new program will continue to rely on the instructor as the source of information concerning former student employment. One major change in the program will be that responsibilities will be centralized by establishing a placement coordinator within each region. Also, the developers of the new system have actively worked toward standardizing terms through their publication and dissemination of an instructor's manual. Further, local vocational educators were actively involved in the design and piloting of the new system.

Low Placement States

State D reports no anticipated changes in the process of collecting placement data. In State E, hope was expressed that employer surveys and a three-year follow-up could be initiated. However, no specific plans have been made to implement these changes.

Federal

Most of the individuals interviewed at the federal level expressed the viewpoint that the problems of collecting valid placement data were at the local level. There was a feeling that local teachers have limited resources to conduct placement data studies and that very few teachers were properly trained in this activity. Further, it was felt that there was a wide variation in the sophistication of the follow-up process used in the states. Some states simply do not have enough expertise and other resources to do the job.

Considerable concern was expressed at the federal level about the kinds of data being collected. Interviewees expressed the need for data to reveal student objectives and the relatedness of vocational education to a student's continuing education. There was also a feeling that beginning jobs do not always reflect well on students being placed in the field for which trained, resulting in a need for longitudinal studies. Federal officials expressed concern about the validity of the data. The belief was expressed that local education personnel did not keep auditable records. Federal officials expressed the beliefs that until the data can be verified there will be a considerable number of guesses in the reported data.

Summary

The process used to collect placement data in the states with high placement can be characterized as minimal and unsystematic. The process used to collect placement data in the states with low placement was more systematic than that of the states with high placement. However, there was considerable difference in the processes used to collect placement data in the two states with low placement. The process of collecting data in the middle placement state was best described as haphazard. The state with the lowest placement rate had the most systematic and comprehensive process of collecting placement data.

Considerable variation existed among the states with regard to the existence of policies for placement studies. One of the states with high placement had a state law concerning placement studies; however, most individuals were unaware of the law. The other state with high placement had no policy concerning placement studies. In the states with low placement, one state had no policy statement while the state with the lowest placement had state legislation and written state policies concerning placement studies. The middle placement state had no official policy concerning the collection of placement data.

In the states with high placement, instructional guidelines concerning the proper completion of the state reporting forms were used. In one state with low placement and in the middle placement state, few guidelines existed, and these dealt basically with instructions for completing the state reports. The state with the lowest placement rate provided the most specific guidelines for conducting placement studies.

In the states with high placement, no systematic effort was under way to provide assistance to those individuals responsible for collecting placement data. In one of the states with low placement and in the middle placement state very minimal assistance was provided. The state with the lowest placement rate conducted annual inservice meetings and area personnel provided continuing assistance.

In all states, the state vocational education agency assumed the responsibility for compiling the federal reports. In all cases the collection of the data was an area/region and/or local responsibility. The state with the lowest placement rate exhibited the strongest leadership role concerning placement studies.

In all states, certain individuals had responsibilities for the placement data collection process. In the state with the lowest placement rate, financial resources were provided to area and local agencies.

In all states, the federal legislation and the accompanying U. S. Office of Education regulations represented the strongest external influence affecting placement studies. In the state with the lowest placement rate, the state vocational education agency had great influence on local and area agencies concerned with collecting placement data.

In the states with high placement, cursory review was made of the placement data reports, but no verification was made of the data. In one state with low placement and in the middle placement state no verification of the data or monitoring of the process of collecting the placement data occurred. In the state with the lowest placement rate, there was no verification of the data; however, there was some monitoring.

Major problems concerning the process of collecting placement data were: (1) quality of the data; (2) lack of information on nonrespondents and leavers; (3) limited resources to conduct placement studies; (4) lack of systematic and comprehensive collection processes; and (5) a compliance mentality.

PLACEMENT FUNCTION

Agency Philosophical Position Concerning the Placement Function

High Placement States

Personnel within both state and local vocational education agencies of the states with high placement agreed that youth needed help in making the transition from school to the world of work. There was also general agreement that this help should, in part, take the form of local school involvement in locating entry level positions for students. In State A, the primary responsibility for student placement lay with the teacher. In State B, either the teacher had the primary responsibility for a placement or this responsibility was delegated to counselors with the teacher then serving in a helping capacity.

Middle Placement State

Interviewees in the middle state (State C) believed youth needed help in making the transition from school to work and that the local school was responsible for supplying placement services to students. In the middle state the teacher had primary responsibility for placement activities.

Low Placement States

Interviewees within both state and local vocational educational agencies of the states with low placement held the philosophical position that youth needed help in making the transition from school to work and that it was the responsibility of the local school to supply placement services. In State D, the primary responsibility lay with the teacher, although other personnel were sometimes designated to help in placement activities. In State E, responsibility for placement might lay with the teacher, local placement counselor, or regional placement personnel.

State Coordination for the Placement Function

High Placement States

Neither state with high placement rates reported high coordination of the placement function by the state vocational education agency. In both cases, the local schools were highly autonomous and the state agency served only in an advisory capacity.

Middle Placement State

In the middle placement state (State C), the state vocational education agency did not coordinate the placement function. The local schools were highly autonomous and the state agency served only in an advisory capacity.

Low Placement States

Coordination of the placement function was high in one low placement state and minimal in the other. State D reported the schools as being highly autonomous in their placement functions with the state vocational education agency serving only in an advisory capacity. State E reported high coordination of the placement effort throughout the state. In about two-thirds of the state the concept of area wide placement had been developed. In these areas the state agency provided coordination and technical assistance directly to the area placement office. Where no area placement office existed, the state agency provided these services directly to the local schools.

Placement Services Provided

High Placement States

The high placement states provided different types of placement services for students. State A delegated this responsibility to teachers whereas in State B this responsibility was delegated either to teachers or placement counselors. In both states designated personnel appeared to accept this placement responsibility.

In State A, the teacher had the primary responsibility for placing students. This teacher-centered approach to placement was consistent throughout State A. Teachers appeared to accept this responsibility and spent the time necessary to do the job. Occasionally, help was provided to teachers by job placement counselors or by personnel in Comprehensive Employment Training Act programs. Placement service leadership throughout the state was provided by twelve job placement counselors during the 1975-76 school year.

In State B, the process of placing students varied across schools. In some schools, the primary responsibility for placement lay with the teacher, and in other schools the primary responsibility was delegated to a placement counselor with the teacher serving in a helping role. In either case, the designated personnel appeared to have accepted this function. In State B, some interviewees reported that because their programs were excellent and their communication with business and industry was good, their graduates were actively sought by the local employers. Under these conditions, placement of their students was relatively simple.

Middle Placement State

In the middle placement state (State C), the responsibility for placement of students was delegated to the individual teacher. On occasion, a counselor was assigned to help with placement activities, but most often this help took the form of record keeping rather than actual placement of students. Most teachers interviewed expressed commitment to placing their students.

Low Placement States

The low placement states differed in the type of placement services provided for students. State D delegated this responsibility to teachers and State E delegated this responsibility to one of a variety of persons: teachers, placement counselors within the school, or area wide placement counselors. The low placement states also differed in the degree of commitment given by the persons designated. In State D, the teachers did not appear to spend much time with the placement function whereas in State E, much effort appeared to be given to student placement.

State D did not appear to have a well organized placement function. Although the general philosophy of the personnel throughout the state placed responsibility for placement with the teacher, teachers did not appear to spend much time in this activity. In some instances, a school secretary relayed employers' requests to students. All too often, little was done to help students find relevant work experience while attending school although these work experiences were reported as a primary source of eventual job placement by interviewees.

In direct response to low local education agency emphasis on placement within the schools in State D, a model project was recently developed by the state vocational education agency. The model is currently being disseminated throughout the state in a series of workshops. The model program hopes to increase the local educational agency's awareness of the need for placement of students as well as provide a series of steps that will help teachers and counselors operationalize the placement function.

In State E, the process of placing students varied greatly from school to school. In some schools, teachers had the primary responsibility for placing students. In other schools, a placement counselor at the local school was assigned primary responsibility with the teacher then taking a secondary role. In some regions, a highly formalized area wide placement service was available. Where special placement personnel was available, active job development was reported.

Interviewees in State E estimated that 45 percent of vocational students received some placement service. They also reported that placement was not limited to vocational education students or to recent graduates. In addition, they reported that employability skills were taught within the classrooms to help students learn the skills needed to locate jobs on their own.

Resource Allocation for Placement Services

High Placement States

In both of the high placement states no financial resources were specifically allocated to support the placement function. Personnel resources were generally available through teacher and counselor time. However, placement duties were secondary responsibilities in that these personnel did not receive incentives for their services nor penalties for lack of service.

Middle Placement State

In the middle placement state (State C) no financial resources were specifically allocated to support the placement function. Personnel resources were generally available in the form of teacher time. However, the placement task was a secondary responsibility of the teacher. No incentive was provided for service nor was there a penalty for lack of service.

Low Placement States

Low placement states differed in the amount of resources allocated to the placement function. In State D, no financial resources and few personnel resources were available whereas in State E both financial and personnel resources were available.

State D did not allocate financial resources to the placement function. Teachers were designated as the persons responsible for the placement function, but no time appeared to be given to them to accomplish this task. Teachers did not appear to give much time to this activity.

State E allocated 5 percent added cost monies for the placement and follow-up functions. In some schools this money was used to give teachers release time, in other schools it was used to hire special placement counselors within the school, and in some districts this money was pooled to finance an area wide placement office.

Nature and Extent of Cooperation with Other Agencies

High Placement States

One high placement state reported cooperation with other agencies in the placement of students in entry level jobs whereas the other high placement state reported no cooperation with other agencies.

State A reported good cooperation between some of the schools and the state employment services as well as with private employment services in placing vocational education students in entry level jobs.

State B reported no ties between school placement services and the state employment services or any other agency.

Middle Placement State

Cooperation with other agencies did not seem to exist to any great extent in the middle placement state. Occasionally an interviewee mentioned cooperation with personnel employed under the Comprehensive Employment Training Act and the state employment services, but this cooperation did not appear to be a general picture of what was happening throughout the state.

Low Placement States

State D did not have any ties with state employment or with other employment agencies for placing vocational education students in entry level jobs.

In State E, the local education agencies sometimes did and sometimes did not use the state employment service. In some instances, state employment service employees served on local vocational education advisory committees. In other districts, cooperative agreements had been negotiated with the state employment service personnel to assist the local schools with placement activities. In addition, State E reported some cooperation with counselors from the Comprehensive Employment Training Act Program.

Problems

High, Middle, and Low Placement States

The most frequently mentioned problem regarding the placement function was teacher overload. This problem was mentioned in four of the five states (State E being the exception). In addition to the above problem, interviewees in State A listed the following problems:

1. No formal organizational structure supporting the placement function.
2. No materials prepared by state vocational agency that would help teachers with the placement function.
3. Need for an area wide approach to placement.
4. Low wages for entry level work.

Interviewees in State B listed the following additional problems:

1. Lack of teacher understanding of how to do placement.
2. Lack of state vocational agency leadership.
3. Reduced quality of training in time-sharing schools.
4. Child labor laws.
5. Poor economy.
6. Low wages for entry level work.

Interviewees in the middle placement state (State C) listed the following additional problems:

1. Placement is not a specific responsibility of a designated individual.
2. No formal linkages to assist with placement.

Interviewees in State D listed the following additional problems:

1. Former students sometimes take jobs for three or four months then leave to look for another position. The follow-up survey often catches them between jobs making it appear that the entry level placement did not occur.
2. Sixty to seventy percent of the students go to college.
3. Students need to learn employability skills to help them look for their own jobs.
4. Cluster approach to instructional curricula does not always qualify student for job without more specific training.
5. Need to evaluate employer's perception of quality of work.

Interviewees in State E listed the following problems:

1. Lack of monies for placement function.
2. Reduced teacher contact with students in time-sharing programs.
3. Students not always aware placement help exists.
4. Labor laws, insurance regulations, and unions restrict youth employment.
5. Competition with personnel in the Comprehensive Employment Training Act programs.
6. Need to let employers know youth are dependable.

Low Placement States

One low placement state reported no cooperation with outside agencies in the placement of students in entry level jobs whereas the other low placement state reported frequent use of the state employment agency in the past and was working toward greater affiliation with this agency in the coming year.

State D did not have any ties with the state employment service or with other employment agencies for placing vocational education students in entry level jobs.

In State E, the local educational agency sometimes used the state employment service. Interviewees reported instances of a state employment service employee serving as a member of the local vocational education advisory committees. Also, cooperative agreements have been negotiated with the state employment service which allow full-time state employment service people to assist the local schools with placement activities in one area. In addition, State E reported cooperation with counselors employed under the Comprehensive Employment Training Act.

Federal

No pertinent information was collected from federal level interviewees regarding the placement function of the states.

Summary

All states agreed that youth needed help in the transition from school to the world of work and that placement into entry level jobs was one way that vocational education should help youth make this transition. How the placement function was operationalized differs among the five states, but the differences do not appear to explain the different placement categories, i.e., states with high placement, states with middle placement, and states with low placement.

There did not appear to be any commonality between personnel assigned primary placement responsibilities and the placement rate of the state. In States A, C, and D, the teacher had the primary responsibility for student placement. In State B and State E, the personnel primarily responsible for placement varied from school to school. Counselors, job placement coordinators, and other more specialized personnel might help teachers assume the responsibility for placing students. In State E, an area wide concept was being used in most of the state.

There did not appear to be any commonality between the degree of commitment of the designated personnel and the placement rates of the states. Designated personnel in States A, B, C, and E all appeared to show commitment to placement. Designated personnel in State D appeared to have minimal commitment.

No commonality was found between financial resources allocated to the placement function and the placement rate of the state. In fact, the state with the lowest placement, State E, was the only state reporting financial allocations for placement purposes.

Coordination did not differ among the five states and therefore could not be used to explain differences in placement rates. In all states the state vocational education agency served in a consultative capacity for the placement function.

Cooperation with outside agencies did not appear to explain differences in placement rates. One low and one high placement state had cooperative arrangements for placement with other agencies. The lowest state, State E, had the most extensive cooperation with the state employment service.

The most frequently expressed problem was that of teacher overload. This problem was reported in all of the states except State E.

UTILIZATION OF PLACEMENT DATA

Compliance or Program Improvement

High Placement States

The majority of opinions expressed at both the state and local vocational education agency levels indicated that the collection of placement data was primarily a compliance effort. A few interviewees at the state level saw uses for the placement data beyond that of compliance although very little actual use of the placement data was reported. No interviewees at the local level appeared to see much use for the placement data.

Middle Placement State

In the middle placement state, the placement data was viewed strictly as a compliance effort. An occasional reference at the state vocational education agency level indicated that there was awareness that the data could be used for decision making.

Low Placement States

The majority of opinions solicited at both the state and local vocational education agency levels indicated that the collection of placement data was primarily a compliance effort. A few interviewees at the state level saw uses for the placement data beyond that of compliance although very little actual use of the placement data was reported. No interviewees at the local level appeared to see much use for the placement data.

Dissemination Efforts of the Various States

High Placement States

One high placement state prepared a summary report on the placement data and one did not. The state that wrote the summary report distributed it to state and local vocational education personnel. The state that did not write a summary report distributed a copy of the U. S. Office of Education form only to selected personnel at the state level.

In State A, a summary report was prepared on statewide placement data. This summary report was distributed among the state vocational education agency staff and sent to local school administrators. Reports of distribution within the local schools varied. It appeared that some schools distributed the information in the summary report among their staff and others did not. Neither state vocational education agency sponsored workshops nor other forms of dissemination were reported to exist.

No summary report was prepared in State B beyond the completion of the U. S. Office of Education form. Copies of this form were disseminated to selected members of the state vocational education agency staff and to regional coordinators. No written or oral information on statewide follow-up data was given to the local schools. The executive secretary for the advisory council did not receive a copy of the data going to the U. S. Office of Education.

Middle Placement State

No summary report was written in the middle placement state (State C); however, the U. S. Office of Education form was completed. A copy of the completed form was sent to the state advisory council. No other dissemination of the placement data was done although the data were reported to be available upon request.

Low Placement States

Both low placement states prepared summary reports of the placement data and distributed the reports widely throughout both state and local vocational education agencies.

In State D, placement data were collected as part of a larger data collection effort. A major report was written contrasting the present data with past data on many related dimensions. Graphs, tables, and interpretation of trends were part of the major report. The report was distributed to the staff of the state vocational education agency, to the regional coordinators, and to local school administrators. In addition, computer printouts were given to regional coordinators for all the local schools within their region. In the past, the local schools could get a computer printout of their own data for the asking. Recently, the state vocational education agency has begun charging a modest fee to cover computer costs. Local education agencies visited did not appear to ask for the computer printout of their data or to share the statewide follow-up report with their staff. No state vocational education agency sponsored workshops were reported.

State E prepared a summary report of statewide placement data. The summary was widely distributed. Summaries go to state vocational education agency staff, local school administrators, regional coordinators, local counselors, advisory council members, and board of education members. In addition to summary reports, the state vocational education agency also held summer workshops to acquaint local school personnel with uses of placement data.

Uses Made of Placement Data

High Placement States

No consistent major uses of the placement data were reported in the high placement states. In State A, the placement data were reported as occasionally being used for program improvement and to account for vocational education expenditures. Little or no use appeared to be made of placement data for personnel evaluations.

In State B, the placement data were generally not used because the validity and reliability of the data were questioned. However, the data were sometimes quoted to help recruit new students into vocational education programs.

Middle Placement State

Interviewees in the middle placement state (State C) reported occasional use of placement data for program improvement and goal setting. Placement data were reported as not being used to evaluate personnel.

Low Placement States

No consistent major uses of the placement data were reported in the low placement states. Interviewees in both States D and E reported the occasional use of placement data in program improvement and goal setting. State E interviewees also reported the use of placement data to describe graduates; help recruit new students; and build cooperation with business, industry, and labor. Neither of the low placement states used the placement data for evaluation personnel.

Problems

High, Middle, and Low Placement States

All levels of personnel interviewed were asked to state the problems they encountered in the dissemination and utilization of placement data. The following problems were identified in four of the five states.

1. Underuse of data.

2. Concern for validity and reliability of the placement data.

In addition to the above problems, State A reported the following problems:

1. Need for longitudinal data.

2. Need for data interpretation.

In addition to the above problems, State B reported the following problems:

1. Lack of dissemination of the data to local education agencies.

2. Difficulty in using placement data for program evaluation due to high mobility of students, i.e., student's report of job in related field in another state does not give meaningful data for local program improvement geared to meet the local job market.

In addition to the above problems, the middle state (State C) reported the following problem:

1. Need for interpretation of data.

In addition to the above problems, State D reported the following problems:

1. Low response rate.

2. Length of form.

3. Overuse of placement data as a criterion of success in vocational education.

4. Need for more inservice programs to acquaint personnel with use of placement data.

In addition to the above problems, State E reported the following problem:

1. Need to collect data that the user felt was important to decision making.

Federal

Interviewees at the federal level reported the following information concerning dissemination and utilization at the state level:

1. Placement data were used for program approval only in two states.
2. Considerable doubt was expressed that placement data could ever be used for planning as it would be politically dangerous and not responsive to large investments in staff and equipment.
3. Concern was expressed that if placement data were used to evaluate programs, the data reported to the U. S. Office of Education would quickly become inflated and would become relatively useless.
4. It was felt that the present system requires the local education agency to prepare too much paperwork. The local education agencies presently see minimal use of the information being collected. Reports that include interpretation of the data need to be disseminated back to the local education agencies.
5. There was low confidence in the data due to the large variety of collection procedures among the states, nonresponse problems, and other methodological problems.

Interviewees at the federal level reported the following information concerning the collection and use of the placement data within the U. S. Office of Education.

1. There has been a historical change in the dissemination of the federal report on placement rates during the 1970s. The trend is toward longer and more comprehensive reports.

2. Federal reports are disseminated as follows: chief state school officer, state director of vocational education, state advisory council chairperson of vocational education, state advisory council executive director of vocational education, national advisory council of vocational education, state director of community colleges, American Vocational Association, and several vocational education related magazines. In addition, ten to twenty-five copies are sent to each state.

Summary

High placement states did not differ from low placement states in the dissemination or use of placement data. One high and both low placement states wrote and distributed summary reports. One high placement state and the middle state did not write a summary report and had little or no dissemination of the raw data they reported to the U. S. Office of Education. None of the states made any consistent major use of the placement data beyond that of compliance with the federal mandate.

Two problems were reported by both high and low placement states: (1) the underuse of placement data and (2) the lack of faith in the data due to concern for their validity and reliability. No problems were common to only high or low placement states.

CONCLUSIONS

GENERAL CONCLUSIONS

Personnel at all levels within all five states viewed the collection of placement data as primarily a compliance effort. In States A and E, the effort was viewed as compliance with both federal and state regulations. In three states--States B, C, and D--the compliance was viewed as reaction to the federal mandate. Interviewees at the federal level also believed that the state data were being collected primarily as a compliance effort (to meet the reporting requirements of the legislation, not program improvement, etc.).

It was assumed that collecting data primarily in response to a mandate would weaken the incentive of personnel involved in the effort. This appeared to be the case in all of the states. Interviewees at the state vocational education agency believed the placement data could be used for general decision making and program improvement. It appeared that greater effort could be made to use the placement data in all of the states.

With no consistent internal use of the placement data and with compliance serving as the major impetus for its collection, placement data were not collected systematically with an emphasis on precision and accuracy. State E reported monitoring its data collection process. All of the other states did minimum monitoring or evaluating of their data collection processes. In these states only a brief review of the data was made as it was submitted to the state vocational education agency. Federal interviewees expressed concern over the lack of auditable records at the local vocational education level.

Interviewees in all states and at the federal level expressed concern for the reliability and validity of the placement data. This concern with the quality of the data took the form of questioning its accuracy due to:

1. accidental slippage,
2. purposeful slippage,
3. the lack of systematic procedures,
4. lack of information on students not able to be located, and
5. collection of the data during the former student's first year on the job when job changes are frequent.

Closely tied to the quality of the data was the wide variety of sophistication of personnel and data processing equipment among the states. State B reported using hand calculators to process their data. The other states used data processing equipment,but had varying degrees of cooperation with the department in which the data processing equipment was housed. The federal interviewees confirmed this wide range of sophistication and believed it to be a major variable accounting for differences in the accuracy of placement data among states.

In only one state, State E, were specific financial resources allocated to the follow-up procedure. The other states added the responsibility of the follow-up study to personnel assigned other major responsibilities.

Lack of finances to hire additional personnel and to provide inservice workshops to increase the expertise of present personnel appeared to limit the ability of the states to provide better quality data. Federal interviewees agreed that this lack of adequate funding was a factor contributing to poor quality data.

State vocational education agencies generally functioned in an advisory capacity in the collection of placement data. State E was the exception in that it had considerable state level coordination. None of the states had a written policy for the follow-up process.

The placement data were disseminated differently in the various states. State D collected data beyond that required by the U. S. Office of Education. These data were reported in a major document that contrasted subgroups of students over the past several years. This report was widely disseminated throughout the state to local vocational education administrators. State B and C did not prepare any report; however, the U. S. Office of Education reporting form was completed for both states. Distribution of the U. S. Office of Education completed form in these states was very selective and done on a request basis.

States A and E prepared a summary report which they disseminated widely throughout the state and local vocational education agencies. States D and E also made area and local data available. State E used workshops as another form of dissemination.

DIFFERENCES IN HIGH AND LOW PLACEMENT STATES

The previous discussion concerned the general situation found in all five of the states. Individual states that did not fit within the general picture were specifically mentioned. The following four conclusions were based on the findings of the study where low placement states differed from high placement states.

1. Low placement states had a higher proportion of the secondary school students enrolled in vocational education. The low placement states reported approximately 40 percent of the secondary population enrolled in vocational education whereas approximately one-third of the secondary population of the high placement states was enrolled in vocational education.

2. The process of collecting placement data was more systematic in the low placement states when compared to the high placement states.

3. Low placement states collected placement data by way of a mail survey direct to the former student whereas high placement states used teacher collected data.

4. Low placement states had a more narrow definition of "completers" than high placement states. High placement states included students who left the program before completion but found work in a related field as completers, whereas, low placement states did not.

5. Both of the low placement states and the middle placement state provided placement data feedback to the area and local education agencies.

The information provided in Table 2 reports trends in consistency among the states. The reader should be aware of these trends and not accept them as absolutes or statements of cause and effect.

Table 2

Consistency of Collecting, Reporting and Using Placement Data in the Case Study States*

	TRENDS TOWARD CONSISTENCY				
	Between High Placement States	Between Low Placement States	of Middle Placement State with High States	of Middle Placement State with Low States	Between High and Low Placement States
DEFINITIONS OF KEY TERMS					
Comparison of Official Definitions with Those in Actual Use					
Student	Yes	Yes	Yes	Yes	Yes
Completer	Yes	Yes	No	No	Yes
Leaver	No	No	No	No	No
Dropout	No	No	No	No	No
Occupational Titles	No	No	No	No	No
Relatedness	No	No	No	No	No
Influences Contributing to the Formation of Definitions	Yes	Yes	Yes	Yes	Yes
Strategies Used to Communicate Definitions of Key Terms	Yes	Yes	Yes	Yes	Yes
Monitoring and Evaluating the Use of Definitions	Yes	Yes	Yes	Yes	Yes
PROCESS OF COLLECTING PLACEMENT DATA					
General Processes Used in Planning and Conducting Placement Studies	Yes	No	No	No	No
State Policies Concerning Placement Studies	No	No	No	No	No

Table 2, Continued

	TRENDS TOWARD CONSISTENCY				
Issue Areas	Between High Placement States	Between Low Placement States	of Middle Placement State with		Between High and Low Placement States
			High States	Low States	
State Guidelines for Planning and Conducting Placement Studies	Yes	No	No	No	No
Assistance Available for Planning and Conducting Placement Studies	Yes	No	Yes	No	No
Roles and Responsibilities for Conducting Placement Studies	Yes	No	Yes	No	No
Resource Allocations for Placement Studies	Yes	No	Yes	No	No
External Influences Affecting Placement Studies	Yes	No	Yes	No	No
Monitoring and Evaluating Study Efforts	Yes	No	Yes	No	No
Problems	Yes	Yes	Yes	Yes	Yes
Planned Changes	No	No	No	No	No
UTILIZATION OF PLACEMENT DATA					
Compliance of Program Improvement	Yes	Yes	Yes	Yes	Yes
Dissemination Efforts of the Various States	No	Yes	No	No	No
Uses Made of Placement Data	Yes	Yes	Yes	Yes	Yes
Problems	Yes	Yes	Yes	Yes	Yes

Table 2, Continued

	TRENDS TOWARD CONSISTENCY				
Issue Areas	Between High Placement States	Between Low Placement States	of Middle Placement State with		Between High and Low Placement States
			High States	Low States	
PLACEMENT FUNCTION					
Agency Philosophical Position Concerning the Placement Function	Yes	Yes	Yes	Yes	Yes
State Coordination for the Placement Function	Yes	No	Yes	No	No
Placement Services Provided	Yes	Yes	Yes	Yes	Yes
Resource Allocation for Placement Services	Yes	No	Yes	No	No
Nature and Extent of Cooperation with Other Agencies	No	No	No	No	Yes
Problems	Yes	No	Yes	No	No

*The information provided in Table 2 reports trends in consistency among the states. The reader should be aware of these trends and not accept them as absolutes or statements of cause and effect.

SUGGESTED RESEARCH HYPOTHESES

The following research hypotheses were generated by the project staff in relationship to the study questions. These hypotheses were generated as a result of the case study findings in the five states and should form the basis for planning additional study. These hypotheses represent ideas about what the next research steps might be concerning vocational education placement data.

1. A state's reported placement rate will decrease as the state implements a more systematic placement data collection process.

2. A state's reported placement rate will decrease as the individuals responsible for collecting and reporting the data view the effort more as information to be used for program improvement, rather than compliance reporting.

3. As a consistent set of definitions of the key terms regarding placement data is developed, there will be a decrease in the state's reported placement rate.

4. A state's reported placement rate will decrease as the state develops more specific policies, guidelines, and instructions.

5. A state's reported placement rate will decrease as the state implements placement data collection strategies that use the former student as the primary source of information.

6. A state's reported placement rate will increase as the state implements a comprehensive and systematic placement system for current and former vocational education students.

7. A state's reported placement rate will decrease as the attitude toward collecting placement data reflects one of collecting data for program improvement rather than collecting data to be in compliance with federal, state and local regulations.

8. A state's reported placement rate will increase as the percentage of vocational education students enrolled in cooperative programs increases.

9. A state's reported placement rate will increase as the local vocational teachers' commitment for placing students increases.

SUGGESTED GUIDELINES FOR USING PLACEMENT DATA AS REPORTED BY STATES

Based on the findings of the case study, the following guidelines are suggested for use by those individuals and groups using vocational education placement data reported by states. These guidelines are general and should not be used as a set of cautions to observe when using placement data as it is currently being reported.

1. Users of placement data should be very cautious when using placement data to make comparisons within and among states because of the numerous ways in which key terms are defined.

2. Users of placement data should be aware of the original source of the data, since there tends to be some difference in the way critical items are interpreted by former students in contrast to teachers or administrators.

3. Users of placement data should not automatically fault a vocational education program solely on the basis of placement rates.

4. Users of placement data should be aware of the placement services offered by the agencies from which they are using placement data since agencies with more highly developed placement services tend to have higher placement rates.

5. Users of placement data should determine whether or not the reported data include responses from graduates of vocational education programs and from non-graduates of vocational education programs.

6. Users of the placement data should be aware that in most instances the data have not been verified.

7. Users of the placement data should recognize that the job reported for a former student is but a step in the individual's total career path.

III. CONFERENCE PRESENTATIONS AND REACTIONS

The presentations in this chapter were made at the National Conference on Outcome Measures, August 16-18, 1978 in Louisville, Kentucky. Three of the presentations, Drewes, Kievit, and Venn, were the result of commissioned papers for the project, Interpreting Outcome Measures in Vocational Education.

At the Conference, reactions were given to the presentations made by Billings, Drewes, Kievit and Venn. These reactions are included as a part of the chapter.

During the Conference, the participants were assigned to six groups to interact and formulate reactions to the major presentations. A summary report of the small group interactions is included in this chapter.

In addition, the chapter includes the remarks of the conference analyst.

A NATIONAL PROBLEM: INTERPRETING OUTCOME MEASURES IN VOCATIONAL EDUCATION*

I would like to compliment the National Institute of Education and the National Center for Research in Vocational Education for the fine work that they have done pulling together the various inputs for this National Conference. Certainly, being followed on the program by Grant Venn, Don Drewes, Mary Kievit, and Jack Jennings, puts one in a strange position, seeing that they possibly know more and have forgotten more than I will ever know.

There is kind of a strange "Alice in Wonderland" type of situation concerning my job, which is the Director of Vocational Education Data Systems. Everytime one has a solid draft of all the issues, the issues change or you discover that you have only worked through the first or second level of those issues. Certainly, the topics that have been identified here are without doubt the most critical issues to vocational education. This is the time when vocational education is faced with establishing to the elected officials and the public at large that vocational education is in fact producing outcomes that are of value to society in proportion to the public investment. My current job is to attempt to implement the provisions of the 1976 Educational Amendments which called for a restructuring of reporting mechanisms and data collecting mechanisms in vocational education. As those of you that followed the House and Senate hearings and subsequent conferences and legislative processes know, Congress is most concerned that we develop measures that are sensible and sensitive to vocational education outcomes.

It is important that we understand the legislative history. Legislative history is critical because this is where much of the impetus for evaluation has been generated. Congress was so concerned with the status of vocational education that in three separate sections to the legislation, specific reference was made of outcome measures. In Section 161A, authorization was provided to develop the National Vocational Education Data Reporting and Accounting System (VEDS) and that is the section of the law that I am currently responsible for implementing.

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* A transcription of a presentation by Robert Morgan.

Following these provisions was Section 161B which established the NOIC network. This network is concerned with developing sound supply and demand information for use in planning vocational education programs in the states.

In Section III, Congress expressed concerns about evaluation. In that particular portion of the law, specific reference was made to follow-up units and programs which purport to provide individuals with job skills. This portion of the law also provided for following-up employers to determine the extent to which those job skills were viewed to be useful by the employer in the work setting. In addition, to those concerns in Section 107 and 108, and more specifically, Section 108, Congress was very concerned with the accountability mechanisms that were being used.

Congress prescribed a very, very complex planning and evaluation process for vocational education. In order to understand the legislation, one needs to carefully review the House report of which I am sure most of you have copies. In the House report, Congress expressed some very important ideas. There was concern that inadequate data were being collected on the outcomes of vocational education. Once again in the House report, Congress prescribed two specific measures. One, was the degree of placement in jobs related to training and the other was the employer satisfaction with the product of vocational education--on the job as an employee. Other criteria were identified, such as wages and job satisfaction. The exact wording of that language, though, indicated that Congress was willing to accept further outcome measures as they were developed.

Our approach in the development of VEDS is to begin with the simplest of all questions: What is a vocational skill? Without knowing what a vocational skill is, it would be awfully hard to determine outcomes. Directly related to that particular perspective is the whole notion of what is a vocational program, and if we can identify a vocational program, a student is more than likely to end up being an individual who is enrolled in a vocational program. The question, then, is, "What is a vocational program?"

We have definitions of vocational programs in two places. In Section 191 of the Act, programs are described as those imparting job skills or to benefit people in acquisition of job skills. In Section 112, programs are described as those which purport to impart job skills. When we get down to the operational size of the issue, it becomes very difficult because we must deal with duration and intensity. Section 112 requires that we follow-up every individual that enters into our program which purports to impart job skills. If we look at the historical reporting in vocational education, that includes programs ranging from the two-hour course to a five-year learning experience. And various states have different interpretations as to just where that starting point will be. Vocational education data systems have been able to generate at least some closure on this issue, at least closure to the extent that we now have a definition of a vocational education student which will leave aside the program. The individual becomes a vocational student at the point of entry in the first unique course or a sequence of courses that will lead directly to a job skill. We have separated that particular type of student from those in the more general vocational program. In structuring the forms this separation has been continuous.

We have also separated out short-term adults. An adult under the current law is basically a person who is neither a secondary student nor a postsecondary student nor one pursuing an AA degree. That is quite a residual. It ranges from the two hour course that I talked about to a five-year program. In this particular situation, we have dichotomized people into long term and short term programs. We have not settled the notion of what is a vocational student, but have resolved more, what is not a vocational student. A very significant question that still remains to be answered is: "At what point in terms of intensity, do we consider an individual to be a vocational student in the program that purports to impart job skills?" At any rate, we do have some operational definitions and that probably is a step forward. How good they are and how meaningful they are are still subject to research and question.

In terms of our separation of outcomes, we really have two ways of looking at outcome in the current data system. The first is a very simple kind of measure. How many people have completed? Over a period of time now Congress has become more concerned, not just with how many people have completed, but with what types of people have completed. What target groups have completed? Historically we have had a process oriented reporting system. Congress has moved that emphasis to the output side. And categorically so, by race, by sex, by handicapping conditions, and by disadvantaged. The question remains, how many people have completed? We do not have data on that at the present time, but by 1979 we will have.

The more important criterion is secured after the individual leaves school. Does the individual find (1) employment, (2) employment in job related training, and (3) does the employer find that individual's job preparation satisfactory. We have taken an approach of a very minimal data system for national purposes in this area. Basically, what we are looking for are those completers and leavers from programs that purport to impart job skills. We are following up a sample of completers and a sample of leavers. What we are asking is very simple: (1) "Are you employed?" and (2) "Are you employed in the field related to training?"

Relatedness is to be determined in three ways. The best and simplest way is to ask the former student. A second way is for professional judgment to be exercised because of the degree of relatedness comparing the curriculum with the job being reported by the student. And a third way which is not completely developed is to match occupational classifications to vocational education program codes. This particular technique over time is the preferable technique since this is replicable, empirical, it has a set of rules attached to it, and we will get readily comparable data across the nation. Our problem at the present time, is that the technology has not caught up with the need for information. So in the interim, we will be utilizing three approaches. The data are going to be less hard than we would like and I would hope that one of the outcomes of this conference would be to discuss these mechanisms as well as others for determining relatedness and come to some recommendations about how we can better pursue what I am telling you is the current status, and not what we would like to do.

Relatedness of the job is the single most important value of the criterion. Did the individual get a job in a related area? And what strikes me as very strange, is that every person you talk to about relatedness comes up with a different reason about why it is impossible to determine relatedness. In one instance where an auto mechanics program was followed-up, it was learned no individuals were going into auto mechanics, but everyone was being employed. Further investigation revealed these individuals were being employed as heavy machine set-up men which did not fall in the teachers' evaluation of a related job skill. However, the individuals were making about two dollars an hour more than the average auto mechanic. So, this issue has been discussed on and on, don't let me give you the impression that nobody has thought about it. However, it has not been resolved.

The second criterion that we are more concerned with is the empirical basis in terms of relatedness. On the one hand, we are taking the individual's programs, setting up the matrix, and then arraying this matrix of programs juxtaposed with column headings of two-digit SACs to determine empirically where individuals who receive specific training end up in terms of gross population categories. At present, I know of no data that really reflects this level of detail and we believe that this will begin to give us the empirical base that we need to make our decisions.

In almost every state, there currently exist two kinds of vocational programs. There are what are known as state plan programs and what are called non-state plan programs. In some states these programs are classed as vocational education and in some states they are not classed as vocational education. The most serious problem is measuring the outcome. One problem that really needs to be addressed is: "How do we get a handle on the non-state plan data?" In the government structures of most states, there is insufficient freedom to get data from all sectors which offer programs with titles similar to those in vocational education as reported to the federal government. If we are ever going to get a handle on the true outcomes of vocational education, we must at a minimum have a notion of what is going on outside the state plan. Just to show you the severity of the problem, I'll relate this classic example to you. I had an individual call just a few days ago, and for the first time we said report only state plan data. Most states don't have any other information in their system. Many don't want to have any other information in their system, but state plan data. However, in this state it was going to cut the enrollments in half. In other cases every student that is in vocational education, whether or not the program is covered by the state plan or not, is in the reporting system. When we are talking about outcomes, the vocational education data system will only be getting those kinds of outcomes that are associated with programs covered by the state plan. I think that is the most significant issue when we look at our problem and the fact that job relatedness really constitutes the two issues that are causing the most problems in implementing the vocational education measures.

PERSPECTIVISM IN CHOOSING AND INTERPRETING OUTCOME MEASURES IN VOCATIONAL EDUCATION*

Purpose and Complexities

During the period of the late sixties and into the seventies, some writers have captured public attention and turned that attention to some of the negative outcomes of salient social and individual values. Future Shock, Zero Growth, by the Club of Rome come immediately to mind, as does a more recent volume Small is Beautiful. These books, among others, are manifestations of reexaminations of social directions, social values, and the implications of these for the present and the future. These reexaminations usually include some "pointing of fingers," attributing blame, and education at all levels has had its portion of these. There is a shared concern in many sectors for answering the question of "How does what we produce, provide, accomplish, match the needs, wants, expectations of our constituencies?" In the educational arena the data to provide highly reliable and valid answers are sparse. The wisest answer from many vantage points is to focus on processes for seeking the kind of data which will provide these answers. Yet it is, nonetheless, valuable to ask, "What do we know?" and "What can we reasonably infer from what we know?" What are the implications for action?

The three-fold purpose of this paper is, to explicate as much as existing knowledge enables us to, the values of the various groups directly concerned with vocational education; to analyze the impact that these values have on the perspective through which members of each group view vocational education; and to ascertain the implications for choosing and interpreting outcome measures in vocational education.

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* Presentation by Mary Bach Kievit.

The task as delimited sounds relatively simple and straight forward. In reality, it did not prove to be so. Delving into diverse streams of literature showed that there are many definitions of values. The information available on values is very uneven in terms of the groups from which the data have been derived; the time period at which it has been obtained; and the direct relevancy to vocational education of the definitions of values and hence, the data collected.

Some other concerns emanated from the multidimensionality of groups and individuals. Each person holds values for her/himself as an individual, and holds values relative to the many roles each performs, e.g., as educator, but also as parent; as legislator concerned about the social welfare, but also as legislator concerned about reelection. In brief, there is a multidimensionality about each person and about the concerns held by various groups that make definite statements hazardous, as guidelines for action in this area, and compel us toward tentative statements to be tested for soundness in the diverse situations to which a concern for values has import.

In an era touted for the rapidity of change, the question of stability and change must be confronted directly both in the longer historical context and also within the lifetime of individuals. While considering the question of stability or change, the nature of change and the sources of change come into play. Change can be said to occur when one moves from the diffuse, the general, to the differentiated, the specific. But change of this nature does not preclude changing the degree of importance accorded one value as it comes in conflict with another; or indeed of ceasing to value what had been valued.

Education presumably has some part to play in change. Opinions as to what that part is and should be varies among educators. Some hold that education should inculcate specific values. Others hold that education provides the experiences and the substance from which individuals form values, in a highly individual way, so that education influences value formation only indirectly. Still others contend that the proper role of education is to directly facilitate the clarification of values, and some rational examination of the implications of holding specific values. As one seeks tentative answers to these questions, one must make decisions about the nature of evidence which one will employ. For the literature provides evidence emanating from a deductive mode, the introspective, logical, analytical, philosophical, and the behavioral science.

In addition, acceptance of a specific definition of value, and clusters of values, enables one to use data as indicators of the presence or absence of valuing and in so doing to draw inferences.

In each case, the delineation of the reality investigated, both through the definitions, and the subsequent operationalization into systematic measures, creates inherent limitations. Self-report measures, for example, raise the serious question as to the level of awareness of individuals regarding their values, the extent to which predetermined labels have, in fact, distorted the reality of values for specific individuals and specific groups.

Having shared with you some sense of issues to be resolved in the process of developing a position, let me now share with you the results of that process.

Conceptual Framework and Types of Evidence

The conceptual framework within which I chose to inquire is that of the behavioral sciences. Sociologist Robin Williams is rather generally recognized as one of the more profound thinkers among sociologists and has provided a thoughtful analysis of value orientations which exist in the American culture. Social-psychologist Milton Rokeach has built upon his own inquiry in beliefs and attitudes to study further the nature of values held by individuals, and the way in which individual values differ among persons based on inclusion in socioeconomic categories, occupational categories, racial and religious categories among others. Rokeach is knowledgeable of Williams' work and draws upon and expands some aspects of it. Another approach closely linked is that of Abraham Maslow, the humanist psychologist who postulated a hierarchy of basic sets of human need.

Relative to the types of evidence, greatest weight has been given to knowledge derived from empirical data through systematic research. Due to the limits of this source, other types of data have been utilized as a basis for drawing inferences. Some of these are in the category of informed opinion. Some are derived from testimony to legislative committees. Some are quite impressionistic based on personal experiences with parents and students through time. In brief, as a result of the significance of the subject, I have employed all of the information I had. Thus, in Spinozian terms, it ranges from hearsay, through vague experience, knowledge reached by reasoning, and by immediate deduction and direct perception, with an effort to use the last two as much as possible.

Values: What Are They? How Do We Discern Them?

Values, according to Williams, is "any aspect of a situation, event, or object that is invested with a preferential interest as being 'good,' 'bad,' 'desirable' and the like." (Williams, 1956, p. 374) Values have a conceptual element; they are affectively charged representing actual or potential emotional mobilization; they are not concrete goals of action but criteria by which goals are chosen; they are important, not trivial or of slight concern. (Williams, p. 374)

Social values are regarded as matters of collection welfare by an effective consensus of the group. In sum, both for groups and individuals "values are modes of organizing conduct--meaningful, affectively invested pattern principles that guide human action." (Williams, p. 375)

Values are viewed as constituting a type of continuum. Values concern the goals of action in addition to being components in the selection of means to achieve the goals.

Empirically some of the evidences of values are: the choices made; the directions of interest (that to which people pay attention); statements of what is valued, emotional reactions to statements, implicit premises--not stated because they are taken for granted, explanations and reasons given for conduct; rewards and punishments, i.e., social sanctions. (Williams, pp. 373-382)

Williams differentiates between dominant and subordinate values noting that for a group or system as a whole these criteria are useful:

- extensiveness--proportion of population and activity manifesting the value,
- the duration of the value--has it persisted through time,
- the intensity with which the value is sought or maintained--e.g., promptness, certainty, and severity of sanctions when the value is threatened, and
- the prestige of value carriers, persons, objects or organizations considered to be bearers of the value. (pp. 382-383)

In a pluralistic society such as this, precise and detailed characterization of values can only be done for carefully delimited segments of society. In view of the need, however, for some core values for any society to have the integration essential to survival, major value orientations are apparent. Different groups within society may place the value components of such major orientations in different positions of dominance and subordination and may omit some, and add others.

Major Value Orientations

Utilizing the above criteria, Williams, in 1956 examined available evidence to specify major value orientations in American society. The validity of his analysis is attested to by the commonalities found with analyses completed in the 1970's to address the question of stability and/or change in values in America. These major value orientations have import for this inquiry because the values of the various groups concerned with vocational education emanate from this social-cultural base.

Major value-orientation, as ideal types and kinds of central tendencies by which to note departures, according to Williams are:

1. Achievement-success: stresses personal achievement especially secular occupational achievement, and acquisition of generally accepted symbols of success.

2. Activity and work: mastery and domination of the external world with directed and disciplined activity in a regular occupation a particular form of the basic orientation.

3. Moral orientation: an ethical quality of a particular type that includes principles to work hard, lead an orderly life, to have a name for integrity and fair dealing, not to spend one's substance in reckless display, to have the resolution to carry out the purposes you undertake.

4. Humanitarian mores: disinterested concern and helpfulness, including personal kindliness, aid and comfort, and organized philanthropy.

5. Efficiency and practicality: unites activity and substantive rationality, focusing upon a choice of the most effective means for a given end. Manifestation is the appreciation of technical values in skilled trades, technical, quasi-professional and professional vocations with systematic indoctrination in the standards of "doing a good job." "Practicality as to concrete goals of action correspondingly has meant the canalizing of action in the service of those specific life-models most highly approved in the general culture--broadly speaking, rational, strenuous, competitive striving for personal validation through occupational success" (p. 403).

6. Progress: emphasis on the future rather than the present or past, receptivity to change, faith in the perfectibility of the common man--optimism.

7. Material comfort: high level of material comfort is sought after; standard of living has its attached meanings however for symbols of success, competence, and power.

8. Equality: a value complex subject to much strain includes equality in interpersonal relations as a goal and standard--with compromises in practice; equality of specific formal rights as in the strong and continuing strain for equality for legal rights for all citizens; equality of opportunity to economic freedom and individual achievement rather than equality of condition in either economics or achievement.

9. Freedom: for the individual as an integral agent relatively autonomous and morally responsible. The corollary is that a great variety of forms of personal dependencies constitute a loss of freedom. For example, "freedom of thought so that the truth may prevail; freedom of occupation so that careers may be open to talent; freedom of self-government, so that no one may be compelled against his will" (Becker--Williams, p. 434).

10. External conformity: in a very heterogeneous culture conformity in externals helps to make it possible to continue the society in spite of many classes of interests and basic values.

11. Science and secular rationality: an emphasis reflecting the rationalistic--individualistic tradition; i.e., disciplined, rational, functional, active, requiring systematic diligence and honesty. It is compatible with strivings for mastery of the environment, denials of frustrations and refusals to accept the idea of a fundamentally unreasonable and capricious world.

12. Nationalism--patriotism: widespread satisfaction of people with the country.

13. Democracy: based on the implicit belief in natural law as opposed to personal rule and in the moral autonomy of the individual with a theme of democracy as a procedure in distributing power and settling conflicts.

14. Individual personality: the valuing of the development of individual personality to the end that the person is independent, responsible, and self-respecting and thus worthy of concern and respect in one's own right; in sum, valuing a certain kind of individual.

15. Racism and group-superiority: the ascription of value and privilege to individuals on the basis of race or particularistic group membership according to birth in a particular ethnic group, social class or related social category. A pervasive and powerful counter-current to the values of equality, humanitarian values, political freedoms.

Change or Stability?

Williams formulated these major value orientations in 1956. Have these persisted? Have these changed? Alex Inkeles (Change, 1977, p. 25) has examined American perceptions to look for continuities and discontinuities with the past. A comparison of the areas he treats as "perceptions" with the major value orientations of Williams shows a number of commonalities. Inkeles states " . . . the national profile is still consistent and often contrasts sharply with that of other nations, according to substantial psychological test results and public opinion data." The accumulating evidence is unmistakable: "Over a span of at least 200 years there has been a marked, indeed a remarkable degree of continuity in the American national character. But the evidence tells us too that certain prominent changes are also occurring . . . " (p. 26).

One of the continuities is the continued intensely held belief in the special qualities of the American system--a special brand of patriotism. With 12 percent preferring to live in some other country (lower than for nine European countries) the large majority were committed to this country even in the light of a sharp erosion of confidence in basic institutions, including government.

Americans still believe in the power of an individual to shape his or her future. This belief is held not only by professionals and business people but regularly by two-thirds to three-fourths of American blue collar workers. The emphasis on self-reliance and independence continues.

The majority of Americans believe that most people can be trusted; that we can transform the physical and social world and even human nature over to our own satisfaction. The majority have optimism in their personal economic futures; an openness to new experience and innovation extending beyond the technical and mechanical to the social and sensate; a continuing propensity to assert their rights of personal autonomy over public control. Inkeles considers the evidence and concludes that also continuing are: "a sense of intrinsic worth and a conviction that one is equal to all others before the law; individualism, restless energy; pragmatism; brashness or boastfulness; this wordliness; a preference for the concrete; and a certain discomfort in coping with aesthetic and emotional expression" (p. 29).

Changes according to Inkeles include: "a substantial and steady increase in tolerance of religious, sexual, and racial differences; increase in inner-direction vs. other direction; a shift from the number of people who considered the most important attribute of a job to be its intrinsic importance or its promise of advancement to high income and shorter hours as being more attractive. (Evidence of valuing the ability to purchase symbols of success, achieve material comfort and have greater freedom, through more discretionary time?) Seniority and experience were rated as the basis for getting ahead in their line of work by more persons than those mentioning hard work and persistence. The consumption ethic seems to have replaced the Portestant ethic of saving and investment, as evidenced by the use of credit. Although he notes what may be some strain and conflict through some seeming inconsistencies, he believes that the changes do not undermine the foundations of the system (p. 32).

Vocational-Technical Education as a Means of Achieving Goals Consonant with Social and Individual Values

Vocational Educators, Legislators, Employers

Education, generally, and vocational-technical education, specifically, have been and continue to be valued means of achieving goals directly related to social values which take form in individual values. Its continued support is linked to its credibility as an efficient and practical means to achieving those social and individual ends. That credibility is not exclusively based on hard data from evaluative research, but, presently, of equal or greater significance is, the belief of a sufficient number of vocational-technical educators, employers, parents, and students that it contributes significantly to social and individual goals. Furthermore, the valued social and individual goals and the goals to which vocational-technical education is a means have remained fairly stable over the past fifty years, in the most general sense. Since 1963 however, vocational-technical education has been charged quite explicitly to address itself to extending its service to more categories of persons viewed as having the right to and need for vocational education to further the social values of equality of opportunity through accessibility.

Among the acknowledged leaders of vocational educators and leaders of the constituencies served are Charles Prosser, Terrel Bell, James Rhodes, elected official (businessman and legislator), John W. Thiele, and Roman Pucinski of the National Advisory Council on Vocational Education, and William Pierce, former Deputy Commissioner for Occupational and Adult Education.

In their work Vocational Education in a Democracy, Prosser and Allen attribute the development of vocational education to the valuing of efficiency applied to another value, i.e., training and acquisition of occupational "intelligence" which exceeded that present in the old "pick up method" or haphazard vocational training. Furthermore, education generally is viewed as the means for securing stability and progress in a democracy, with vocational education a special form in its relation to the development of the material and human assets of a people (p. 19). [Mastery over the external world.]

Vocational education conserves natural resources and human resources. [Efficiency and practicality.] The first by promoting, disseminating and transmitting skill, knowledge and the results of invention and by conserving human effort. The second it achieves by promoting morale and intelligence by workers (p. 19). Indeed Prosser and Allen assert that no form of vocational education worthy of the name would confine itself to manual skill and general technical knowledge. Vocational education must also give that "special thinking intelligence, 'I' which functions in the given occupation" (p. 44). "This kind or use of man's job intelligence is shown whenever a master of any occupation brings to bear all his knowledge to think his way through some difficulty that must be overcome." " . . . Merely organizing occupational experiences for training as a substitute for the old pick up method is some improvement. But it does not get us very far unless both processes and functioning facts are so taught that they give understanding to the worker and habits of resourceful thinking with these facts in the processes, situations, and opportunities of his employment. Only in this way can the native ability of any people be utilized to the full in the economic field" (pp. 44-45).

James A. Rhodes, Governor of Ohio, cites as social ills (unachieved social values) unemployment, welfare, and lack of skills. He urges support for occupational education as a means to address these social ills (Rhodes 1969, pp. 13, 16). With a different emphasis from Prosser, though not inherently contradictory, he states that vocational education gives definite purpose and meaning to education by relating it to occupational goals. "It provides the technical knowledge and work skills necessary for employment, but it is more inclusive than training for job skills. It develops abilities, attitudes, work habits, and appreciations which contribute to a satisfying and productive life" (p. 44).

"Vocational education contributes to the general education needs of youth, such as citizenship, respect for others, and acceptance of responsibilities; but," says Rhodes, "it makes its unique contribution to the field of work" (p. 44).

Bell, in 1975, in testimony before the Committee on Education and Labor, acknowledged the legitimacy of assessing vocational education, in part, by the match between vocational education programs and employment opportunities. He maintained, however, that it would be an error to judge the success of all vocational education by this criteria alone. "We feel" he stated, "that vocational education programs should be perceived as an integral part of the educational system of the country . . . and as such is responsible to assist in increasing and improving basic cognitive skills, heightening career awareness, improving the understanding of a variety of work environments and in many instances actually motivating students to remain in school at the secondary or postsecondary level as well as providing specific occupational skills" (pp. 308-309). He added that the two criteria of measuring success in vocational educational programs by ratio of program completions to enrollments and the employment rate of graduates lose sight of these other aspects of vocational education.

What are the commonalities and differences between these expectations of leaders in vocational education and representatives of the policy and one consumer of vocational education namely the employer? One noted authority on business and management provides one source of information. Drucker (Management, 1974, p. 267) brings together social and individual values when he describes the prerequisites for responsible workers and parenthetically states that the fundamental reality for every worker is the eight hours or so he/she spends on the job through which the great majority has access to achievement, to fulfillment and to community. In order to achieve, the worker must be able to take responsibility for the job. To do this requires: (1) productive work; (2) feedback information; and (3) continuous learning (p. 267). Productive work is based on knowledge, analysis, and skill. Feedback information about the worker's performance as against standards is the major reinforcer and tool of the worker for measuring and directing herself/himself. Relative to continuous learning, Drucker notes that continuous learning does not replace training. "It has different aims and satisfies different needs. Above all, it satisfies the need of the employee to contribute what he himself has learned to the improvement of his own performance, to the improvement of his fellow worker's performance, and to a better, more effective, but also more rational way of working." Continuous learning comes to grips with the two basic problems of resistance of workers to innovation, and the danger that workers will become obsolete. It is as appropriate for clerical work as for manual work and knowledge work. The work group has to be seen and has to see itself as a learning group (p. 270).

A survey of employers in New Jersey was reported in 1976 (Task Force on Competency Indicators and Standards, Rutgers Research Team, October 1976) as a part of an effort to identify minimum basic skill requirements for employment for high school graduates. Small, medium, and large firms were surveyed to explore the area of employment practices to determine certain basic parameters. It was found that "requirements for employment were most typically job-related and are becoming more so as a result of recent court rulings. Very few general academic requirements were found although some firms indicated they preferred high school graduates particularly for clerical positions. For some skilled occupations trade school training and/or apprenticeship training is required. High school graduation was often seen as a measure of dependability and 'stick-to-it-iveness' rather than as a guarantee of basic skill mastery" (p. 14).

Communications and arithmetic were commonly stated requirements for clerical positions and were considered important for a wide range of jobs as well. Firms using tests are more likely to be large and to have specified requirements for each job. Such tests are practical and job-related as opposed to general academic tests employed in the past since courts have ruled that tests must have demonstrated validity for the job.

In sum, commonalities do exist among these producers and consumers of vocational education, however, differences on some points of significance appear--specifically difference in the narrowness versus the breadth of program objectives; in one sense narrow training versus education for occupational activity; the explicit attention to educating in processes that have more enduring value as well as the immediately relevant job specific skills. Taking into account the customary gap between ideals and practice, the narrowly conceived outcomes illustrated by the GAO study, the emphasis in the legislative mandates for preparation for employment, and the more frequently used outcome measures of job placement, length of time to gain employment, and employer satisfaction, one can speculate that the narrow view is in all likelihood more pervasive, more prevalent, and more predominate in program implementation as well as evaluation.

The narrow expectations seem based most closely on the values of efficiency and practicality in the short term. Whereas the development of "occupational intelligence" in Prosser and Allen's term attend to achieving values of efficiency and practicality over the long term, individual freedom, intrinsic valuing of individual personality, and facilitate achievement and success through work.

Parents and Students: Consumers With Values

Rokeach (1973) defines values as the cognitive representations and transformations of individual needs and societal and institutional demands. He thus clarifies and adds a dimension to Maslow's hierarchy of needs as motivating forces as he proceeds to differentiate terminal and instrumental values. Terminal values are end states, while instrumental values are modes of behavior some of which are moral values, others of which are competence values. Value systems refer to the ranking of terminal values along a continuum of importance; instrumental values are viewed as being ranked also. Rokeach found that adult men and women ranked the following terminal values highest.

Rank	Men 665	Women 744
1	World at Peace	World at Peace
2	Family Security	Family Security
3	Freedom	Freedom
4	Comfortable Life	Salvation
5	Happiness	Happiness
6	Self-respect	Self-respect

Instrumental values ranked as the top six were:

Rank	Men 665	Women 744
1	Honest	Honest
2	Ambitious	Forgiving
3	Responsible	Responsible
4	Broadminded	Ambitious
5	Courageous	Broadminded
6	Forgiving	Courageous

As Williams noted, and Rokeach implemented, detailed descriptions of values must take into account various social categories such as income, education, race, and age. An analysis of values compared by income and then by education found that persons of low income and limited education held much the same values some of which differed from those with high income and higher levels of education. A world at peace, family security, and freedom ranked high rather consistently across all categories. A comfortable life, self-respect, and friendship tended to be ranked higher by those with lower incomes and less than high school education than were ranked by those with higher incomes and who were high school graduates and above. Instrumental values ranked high by those with less than high school education were: honest, clean, ambitious, forgiving, helpful, and courageous. Being responsible was ranked high by those having completed some high school and above. Relative to race, when income and education were held constant, the one major difference was the higher ranking accorded equality, second for blacks and twelfth for whites (Rokeach, pp. 57-72).

For these data to have any import for the concerns of this paper, it is necessary to make several assumptions. First we must assume that Rokeach's data have some limited generalizability. Second, we must assume that men and women look to occupations as one means for achieving these values, with the corollary that vocational education programs interpreted in terms of these values would be more highly valued as a means.

If these assumptions are at least reasonably tenable, then the findings have some utility for conceptualizing outcome measures which relate to the efficacy of vocational education in achieving goals derived from these values.

In an effort to gain insight into the values of secondary age students, the above data on adult values have utility only if we can accept the premise that these adults as parents, will desire for their children some of these same values. If so, then interpretations of program characteristics, goals, and evidence of outcomes could be developed with close attention to the conditions and behaviors which are associated with attainment of these values. The recent emphasis on educating in life skills for productive participation in society, as a high school graduation requirement lends some support to such a premise.

As for secondary age youth, themselves, Rokeach provides some data, inconclusive and limited however, regarding the salience of particular values for different ages at different developmental stages. Terminal values that generally are ranked in the top eight by eleven, thirteen, fifteen and seventeen year olds are: a world at peace; freedom, family security (lowest for seventeen year olds); friendship; equality; happiness; and a comfortable life. Relative to instrumental values, honest; loving; forgiving; rank high for eleven, thirteen, and fifteen year olds. Some significant departures between eleven year olds, thirteen, fifteen and seventeen year olds occur with increased value placed by these older groups on being ambitious, and responsible and then for the fifteen and seventeen year olds, being capable and independent.

Maslow's hierarchy of sets of needs may be useful in analyzing some of the stronger needs in relation to specific age groups of students.

These sets are, in order of lower and higher needs, physiological; safety; belongingness and love; esteem; and self-actualization. Examined in relation to Rokeach's findings, we find some congruence between terminal and instrumental values and the first four sets of needs. With the fifteen and seventeen year olds moving nearer to that age, where a greater degree of economic self-reliance is socially approved, terminal and instrumental values come into play that contribute to meeting one's own physiological needs and safety, as well as enhancing esteem.

Any work on values emphasizes the complex interaction between value complexes as motivating forces in choosing among alternative courses of action, objects, or goals. Hence to treat terminal and instrumental values as singular even for purposes of analysis, introduces the hazard of dangerous oversimplification. For in the real world of action, conflict between value sets can and does occur, and various combinations of choices can lead to a potential optimizing of satisfactions related to several values.

As a useful illustration, let us consider the generally low status of vocational education. A status conceded and deplored in such statements, frequently quoted, that we must eliminate the belief, too frequently held, "that vocational education is for other people's children." A proposition which is accorded the status of almost, if not quite, being a sociological principle is that the status of a service group, e.g., educators, social workers, physicians, reflects to some degree the status of the group served. Hence, teachers prefer to teach children from affluent homes; physicians are more numerous in affluent communities; and social workers, serving the poor, and disenfranchised have relatively low status among professionals and salaries reflect this. Vocational education prepares individuals for occupations that tend not to be lauded in the highly visible world of the mass media. Indeed with the differentiation of work and its being closeted in plants, factories, and offices, general knowledge about these occupations, as well as some higher status ones, is relatively sparse except for those areas in which friends and relatives are employed. The fact that secondary youth have been well socialized to this status dimension was demonstrated in studies of adolescent choices for work. Several researchers concluded that based on the distribution of workers in the work force, the education and ability levels required, the choices of large numbers of adolescents had to be labeled, in the aggregate, as unrealistic since professional work was cited by large numbers. For the field, at large, the relative status may, in part, contribute to the lower level of support from federal sources when compared with support for higher education relative to numbers served, although it is vocational preparation for what are generally higher status occupations.

If we review the major value orientations delineated by Williams, such as achievement-success; activity-work, material comfort, and freedom through personal autonomy, I believe that the degree of attainment of these values in generally accepted social terms are optimized in some of the higher prestige occupations. Perhaps even more important is that most people implicitly accept the premise that the best optimizing occurs though involvement in higher status occupations. To the extent that these are valid observations, it follows that in choosing vocational education as the means for attaining some of these social values manifest as personal needs and values, many individuals have moved from the most preferred choices to the less preferred choices. An important qualifier to all of this, however, is the proposition that membership in socioeconomic groups tends to place a ceiling upon aspirations, and has been viewed as a social phenomenon that helps to reduce extreme feelings of frustration and deprivation. Thus, parents and family friends continue to be role models and prime influences in choice of and employment in occupations. Even given this qualification, there is evidence that a number of parents derive less pride from their children being enrolled in vocational education than in their continuing in a general or college preparatory curriculum with little or no prospect of further education in the offing. Given these conditions, there would appear to be much merit in interpreting the value and outcomes of vocational education, as means to these valued ends, quite explicitly for parents and students. There is, I suggest, too little mention of the likelihood that vocational education for some is preparation for work which will be transitional and in turn a means to other statuses. Such an approach may engender some risks given the GAO and support in some quarters for the position that vocational education can be justified almost exclusively by job placement--and that in occupations for which trained, or in a related occupation.

Outcome Measures in Evaluating Vocational Education

Evaluation and evaluative research need to be differentiated for fruitful consideration within the parameters of this paper. Suchman (1967) proposes the "distinction between evaluation as the general process of judging the worthwhileness of some activity regardless of the method employed and evaluative research as the specific use of the scientific method for the purpose of making an evaluation" (p. 31). He continues that the range of variation can be indicated by "defining evaluation as the determination (whether based on opinions, records, subjective, or objective data) of the results (whether desirable or undesirable; transient or permanent; immediate or delayed) attained by some activity . . . Designed to accomplish some valued goal or objective (whether ultimate, intermediate or immediate, effort or performance, long or short range)" (p. 32). Suchman points out that the evaluation process moves from value formation, to goal setting, to goal measuring, identifying goal activity, to putting goal activity into operation, to assessing the effect of this goal operation, and back to value formation.

Specifically, what values are addressed in the outcome measures recommended for use in program evaluations and system evaluation, derived by aggregating outcomes from program evaluations? The source for these recommended outcome measures is "A System for Statewide Evaluation of Vocational Education," The Center for Vocational and Technical Education. In broad categories, these outcome measures include: (1) descriptions of characteristics of individuals served by the program and, in aggregate, the system; (2) the successful completion or early departure from the system; (3) acceptance--exclusion rates; (4) employment and earnings history and current status; (5) aspirations for further education; and (6) satisfaction with program. Among the major value orientations evident in the choice of these measures are: attainment of work versus unemployment; earnings are one indication of level of material comfort, achievement and success; satisfaction levels and interest in further education acknowledge the intrinsic worth and a degree of personal freedom through autonomy of choice and further development; admission, exclusion, characteristics of persons served, length of involvement, and conditions of departure address the value of equality of opportunity through evidences of accessibility. Attention to the means value of efficiency and practicality underly the data collected regarding program length, use of advisory councils for evaluation, current manpower data for program planning, facilities, and inclusion of cooperative work experience or simulated work experience.

Statewide system evaluations are supplemented by program and local district evaluations. Some such efforts have included measures of attitudes towards work, work-related behaviors, self-concept, source of interest in work, changes in self-evaluation in relation to work (Nelson and Jacoby 1967; Kievit 1973). These outcome measures address more specifically the major value orientation of freedom through personal independence, self-confidence, and autonomy, and the intrinsic worth of individuals as warranting development in the broader aspect of Prosser's "occupational intelligence." These are at the most elementary level, however, and limited rather than comprehensive. Although the number of sources of outcome measures used has been limited, this primarily grows out of my immersion in evaluation in vocational education which leads me to believe that these outcome measures accurately illustrate the range of measures most frequently used.

Outcome measures which address individual values related to freedom, achievement and success defined in individual terms relative to aspiration levels, and individual personality such as of intrinsic worth are employed in systematic evaluative research less frequently and in more limited evaluative studies. These are more likely to be addressed in evaluation which includes heavy reliance upon informal observation, subjective assessments of spontaneous expressions of students, parents, and employers. Evaluation at this level is more likely to occur without explicit awareness of the full range of values which could potentially be furthered in attainment, and with little attention to the nuances and shadings in communication with members of various constituencies which point to the values most salient to that person at that time.

The value of the initial distinction between evaluation and evaluative research resides in facilitating greater clarity regarding the purpose of evaluation in a specific situation, and the intended consumer of the report as this has implications for choice of outcome measures and data to be collected. Administrators, program planners and evaluators, and teachers should be a team of producers and consumers of evaluative research. This team should be used as a basis for fine tuning the organization of educational experiences to provide the optimal outcomes in terms of manual skill, technical knowledge, and occupational intelligence. In addition, administrators, counselors, and teachers are strategically placed for explicitly linking program objectives and outcomes with individual values of students and their parents. Administrators at the local level and particularly those at the state level need to be attentive to interpreting the outcomes of system evaluative research in terms of valued means which characterize vocational education, and the valued ends to which vocational education contributes.

The choice of outcome measures should be reexamined and expanded to more specifically seek information regarding efficiency and practicality not only in the short term but also over the long term. The contribution which vocational education has made to the individual's sense of attaining, to some measure, the values of family security, a comfortable life, a sense of expanded freedom through expanded options among which to choose, with a sense of confidence, self-respect, equality, and social recognition should be documented. The issue is not whether these values might not have been attained by other means--they probably would have to some degree but rather to demonstrate that vocational education is one means among others, equally effective in most cases and more effective than other means in some cases. This type of documentation would be particularly rich as a basis for information to disseminate to parents and potential students, as well as legislators concerned about the opinions and views of their constituencies. Interpretation of outcomes to this last group might be more effective if couched in terms of equality of opportunity through differentiated and expanded options for many: the sense of success by virtue of having the capacity to purchase more of the symbols of success, through higher earnings, even if the work is mid-range to low in prestige.

Documentation of this nature would seem to call for tracking of vocational education students through time, at various regular intervals. The case study method with interviews would afford the greater likelihood of gaining insight in the contribution of vocational education to value attainment. The diversity of the life styles surfacing, the interplay between work and education, job changes with impact on value attainment, would be informative and add much to our understanding of the impact of individual programs and state systems.

Legislators and Board Members: Audience for Evaluative Research and Evaluation

Legislators and board members are concerned about accountability to their various constituencies. One criterion for accountability is her/his effectiveness in promoting and sustaining federal, state, or local policies and programs which are perceived to be beneficial. Benefits are related to the achievement of goals linked to values. In view of the preceeding examination of values, it seems reasonably evident that values most salient for these groups include an employable rather than unemployable constituency, constituency material comfort vs. material impoverishment, independence of individuals vs. dependency, and equality of opportunity, and equal access to programs. Credible documentation that vocational education is contributing, efficiently and practically, to attaining these ends for an important segment of a legislator's constituency will provide a more persuasive rationale for support. Evaluative research and evaluation should be the basis for providing this documentation.

Evaluative research should include the placement, job satisfaction, admission and completion data elements as well as the others cited earlier. It should be supplemented, however by some systematically obtained case materials which provide "close-ups" of what the data mean in individual and human terms. Data obtained from case studies should be targeted specifically on the values of individuals enhanced by vocational education. The results should be couched in "value" terms when reported.

Report format might be modeled (with some adaptation) after the annual financial reports of a large corporation. The better ones of these show the statistical data succinctly, and elaborate on the meaning of these statistics for the central concerns of the firm. The narrative could include the "close-ups" of individuals and groups served with some general statements indicating the typicality of the "close-up" for the total population served. Goals only partially achieved, but the subject of imaginative planning and continued pursuit, should be included and clearly presented as evidence of shared concern for efficiency and practicality as a means to the end values.

Employers: Audience for Evaluations

Employers value productive workers as essential to increased efficiency. Hence, evaluations should attend to those program outcomes which are linked to student behaviors essential for rapid integration into the job setting with full productivity within the shortest time period feasible: habits of work, such as knowledge of safety measures, dependability that reduces loss of time, a fairly precise indication of level of skill performance to be expected from specific vocational programs, and the adaptability and capacity to learn is essential for responsible workers. The values of employers which vocational education contributes to are comparatively narrow.

Modes of reporting might well be in the form of an inventory of these behavioral outcomes from vocational education programs. The proportions of graduates who achieved minimum levels, clearly defined, in the various areas could be reported in such a format.

Administrators and Teachers: Audiences for Evaluative Research

Evaluative research should be designed to link assessments of outcomes to the attainment of individual values of students, both present and emerging. Close attention needs to be given to the controllable variables which may be significant points of intervention for teachers in structuring curriculum, classroom management, and instructional strategies to increase the efficiency of learning for many students, increasing the success rate for those admitted, and enhancing attainment of the personal values of students for (a) feeling capable, (b) achieving a sense of esteem from self and others, (c) sharing friendship, and (d) increasing individual freedom through decreased dependency and increased capability for independence in a number of spheres through the attainment of skill, problem solving abilities, and earning potential. Setting goals, and monitoring progress or lack of progress toward these goals are essential to evaluation of ongoing program implementation designed from evaluative research. Routinized feedback sessions between supervisors and teachers on cumulative program outcomes for students should be an important part of the process. The feedback should include summarizing quarterly reports and an annual report. Some quantifiable data of use would include attendance rates, dropouts, measures of skill performance in vocational area, anecdotal observations regarding problem-solving skills and those behaviors indicative of goal attainment relative to the values cited above.

Students and Parents

The values of individuals to which vocational education is one means include family security, freedom through economic independency, self-respect, and material comfort. Work and preparation for work are processes through which individuals develop and exercise friendship, responsibility, capacity and ambition. Evaluation which is couched in "close-ups," vignettes, and anecdotal types of communication can effectively link outcomes of vocational education to individual values. A series of well-designed, colorful posters, each focusing on a single value and multiple program processes and outcomes which are related is one reporting format. Spot public service announcements on radio and brief film clips on television designed on the same rationale could be more widely disseminated. News releases in local daily and weekly newspapers leading off with a "close-up" for human interest on one or two values and concluding with statistical data regarding the typicality of the achievement could also be effective. The focus and reporting made could be similar for parents and students with slightly different points of emphasis. Young students in secondary programs are less concerned with family security but are concerned with acquiring freedom through independence, being capable and developing friendships. Data obtained through case study and interview are best suited for dissemination to these groups.

In conclusion, as vocational educators concerned with linking programs and program outcomes more closely to related values of our various audiences, we should direct attention to ways and means of ascertaining those values of persons and groups of immediate concern. This paper provides a general framework, a spring board, so to speak, from which to be better attuned to appropriate starting points in seeking information on values. It is the broad-brush stroke and not the finely detailed picture needed for most effectively linking particular programs in vocational education to values--social or individual. To seek such linkages is a worthwhile direction. For in the process, individual purposes and legislative intent may be more clearly articulated, more subject to reexamination and positive modification. Vocational education may become more effective as a means to attaining social and personal values.

OUTCOME MEASURES RELATED TO INDIVIDUAL AND SOCIAL VALUES

Outcome Measures	Individual		Individual Needs	Major American Value Orientations
	Terminal	Process		
Work - Earnings	Comfortable life Sense of accomplishment Freedom Self-respect Social recognition	Ambitious Capable Honest Independent Logical Responsible Self-controlled	Physiological Safety Esteem Self-actualization	Achievement-success Activity-work Material comfort Freedom through independence, self-confidence, personal autonomy Efficiency and practicality
Access, enrollment and completion	Equality Freedom of choice		Belonging Esteem	Equality of opportunity Humanitarian mores Efficiency-practicality Democracy Individual personality
Aspirations for Further Education	Material comfort Sense of accomplishment Freedom - Choice Independence Self-respect	Ambitious Capable	Self-actualization	Achievement-success Efficiency-practicality Material comfort Equality of opportunity Freedom
Satisfaction with program	Pleasure Happiness			Humanitarian mores Efficiency and practicality Individual personality
Program Characteristics - Work experience - Manpower data - Advisory councils - Length				Efficiency and practicality

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REACTION TO PERSPECTIVISM IN CHOOSING AND INTERPRETING OUTCOME MEASURES IN VOCATIONAL EDUCATION*

Some of you know that I live in the Washington, D. C. area; well, I must say it's good to be away from Disneyland-Three. Maybe in the calmer setting of Louisville we can nip away at some of the thorny issues which have plagued vocational education since 1968. To me, 1968 was the time when some observers began to take the vocational education movement seriously. Traditionally, vocational educators were more concerned with day-to-day activities and left others to agonize over items of theory, relevance, and outcome measures, for example. Since 1968, the critics have advanced in numbers and become more strident in their comments. In addition, other events occurred which have given comfort to those who would do away with or diminish vocational education. To illustrate, the apparent anti-tax movement in California caused the dissolution of RAVACs (Regional Adult-Vocational Advisory Councils) after a two-year development period. Another situation is the back-to-basics concept. Generally, vocational education is not considered a basic by the proponents of this idea.

These situations tended to make some vocational educators defensive, others angry, and still others frustrated. However, a variety of activities which are designed, in part, to respond to the issues are occurring. In a sense, this conference was brought about by the need for constant thesis, antithesis dialogue.

Mary's paper makes a significant contribution to the dialogue. It splendidly renews the memory of our heritage. It is a refreshing and stimulating reminder that the largest part of what we are all about is people and their needs; not OMB's economizing.

More specifically, I would like to draw your attention to four possible applications of some of the thoughts that Mary provided for our consideration. The four areas where consideration of values can have a major effect are: (1) Philosophy of Vocational Education, (2) Curriculum Development, (3) Research, and (4) Management.

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* Reaction by Ralph Bregman to Mary Kievit's presentation.

Philosophy

In 1977, Floyd McKinney, Katy Greenwood and others conducted an excellent workshop on the philosophy of vocational education. The workshop itself and the number in attendance were tangible evidence of the interest in philosophy--the theory as well as the practicality.

Those who are continuing this vital effort--the development of a philosophy--would do well to think about the values of vocational education as part of any statement or pronouncement.

Curriculum Development

If, in fact, vocational education can satisfy or reinforce certain behaviors which are cognitive/affective domain-related and which, in turn, adhere to selected values, then the content designed to develop behaviors and cultivate values should be specified in the curriculum. Too many of the alleged benefits of vocational education cannot be identified in the curriculum.

For example, at a recent meeting, a review of the literature on vocational education was presented. The speaker noted that vocational education has multiple goals. Among its many claims is that it provides personal satisfaction to the individual; it also promotes social and economic mobility. The curricula that I've seen have no content referent to these goals. The goals and the individual's achievement of same seem to be assumed as a result of participation, per se, in a vocational program.

Research

Mary has provided us with a taxonomic paradigm for linking, as she says, particular programs in vocational education to values--social or individual.

I would like to suggest a more ambitious use of these materials. The vocational community has an opportunity to put forward and restate in specific terms the social and economic utility of vocational education to the individual and society. Put another way, the values that relate to vocational education could be restated as intended outcomes. A matrix could be prepared. On one dimension, social and economic goals that vocational education purports to develop could be noted. Individual and societal preferences related to vocational education would be on the other dimension. (The cells on the matrix for any particular goal or preference need not be mutually exclusive.) For example, a social goal espoused by some vocational educators is the individual's attainment of a firmer, more positive self-concept. Self-concept is congruent with "individual personality," a value orientation identified by Williams. Where an individual's preference is congruent with this goal, then the results of curriculum intervention can be reported in more precise terms. Currently, results are presented in a unidimensional form--that is, how many students were enrolled or how many were placed. However, if values are added to the research, then the outcome modality, in the form of a multidimensional display, can be achieved.

Additionally, by declaring more specifically what vocational education is willing and prepared to be accountable for, those engaged in research will not be able to operate as loosely as heretofore. One illustration should suffice: In a recent study (April 1978) reported in the Phi Delta Kappan, one statement made by the author was that vocational education programs, as currently designed, appear to alienate students from themselves and society while failing to engender any kind of appreciation for learning. In reviewing the original manuscript in order to prepare a response, I could not find the criteria that the author used to classify students as vocational. Further reading disclosed the author's position, which was that "the nature of vocationally oriented curricula is so diverse as to render any clear distinction between academic and vocational education nearly impossible." Unless the vocational community stands forth and more clearly identifies itself, it will continue to be plagued by irresponsible interpretation of vocational programming.

Management

Management of the vocational enterprise can be influenced by the vocational values held by administrators. An educational management system generally includes five components: information, planning, operations, evaluation, and reporting. Each of these components has a vital role to play in perfecting the vocational delivery system. Personnel managing these components who have not internalized vocational values would be only superficially concerned with the value structure imparted to students. These same individuals have avoided responsibility for developing a universally accepted definition of a vocational student.

Are we really content in asserting that a high school student who took only one vocational course was a bona fide vocational student? That is, that she/he acquired the requisite social and economic skills and values. If we are not content, why do we report them as vocational students rather than prevocational or by some other more descriptive term?

In conclusion, I hope that Mary's paper acts as a catalyst and causes us to consider the broader application of values--to put to use the value structure imbedded in the vocational system and of those it serves and report the outcomes of some activities in terms of societal/individual values. Further, in order to obtain data of any reasonable magnitude of the impact on the value structure, the societal values addressed by the different subsystems (e.g., curriculum development and research) must be explicated. Finally, if we consider carefully the full implications of her message, we might find that vocational education will be better able to take a more proactive and aggressive posture.

REACTION TO PERSPECTIVISM IN CHOOSING AND INTERPRETING OUTCOME MEASURES IN VOCATIONAL EDUCATION*

Let me first express some hesitation in proceeding with my prepared remarks on Dr. Kievit's paper. In my first and second readings of the advance copy of the paper, I came away with differing impressions. In hearing her presentation today, I discerned other new ideas in the paper. Probably, when rereading it again later, I will discover yet additional new concepts in what Dr. Kievit has produced. So it is only with trepidation that I proceed to offer my prepared remarks.

Primarily, I looked for certain things in the paper that, unfortunately, I was not able to find. My expectations for the paper had been based upon discussions and concerns expressed during the meetings of the Advisory Panel for this project. I am sorry that the paper does not address these concerns.

The three-fold purpose of the paper is to describe the values held by various groups; to discuss the roles played by values in the groups' views about vocational education; and, finally, to consider the implications of the foregoing for the choice and interpretation of outcome measures used in evaluations of vocational education.

One group addressed in the paper is comprised of vocational education leaders, and Dr. Kievit cites Charles Prosser, James Rhodes, Terrel Bell and others. She points out that the leaders suggest that vocational education contributes to the attainment of a wide variety of valued social and individual goals, including:

- efficiency in the provision of occupational training
- securing stability and progress in a democracy

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* Reaction by John Grasso to Mary Kievit's presentation.

- promoting morale and intelligence among workers
- combatting unemployment and reducing the need for public welfare by providing skills
- developing attitudes, abilities, work habits and appreciations which contribute to a satisfying and productive life
- contributing to citizenship, respect for others, and the willingness to accept responsibilities
- assisting in increasing and improving basic skills, heightening career awareness, and motivating students to remain in school

Unfortunately, her paper does not address the implications of these various valued goals for the choice and interpretation of outcome measures. However, it should seem that there would be important implications.

It would seem to me that research undertaken or supported by vocational education leaders in the states and LEAs should reflect the values and goals listed by Dr. Kievit, and that findings should serve to document the accomplishments of vocational education. But the paper does not address these points.

Moreover, as I considered the body of existing research and evaluation studies, I see possible reasons why the paper did not consider the implications. First, the valued goals may be so fuzzy, global, and difficult to measure that it is impossible to identify credible evidence on the relevant accomplishments of vocational education, because no such evidence has been produced. An alternative possible reason is that there is credible research and evaluative work that relates to the values and goals in question, but that Dr. Kievit chose not to review and discuss it in the paper presented today. Let me insert a sympathetic note: A good deal of work done by and for State Departments of Vocational Education and by and for State Advisory Councils for Vocational Education is very difficult to learn about and to obtain. Frequently such work is not regularly submitted to the ERIC system for dissemination, nor to NTIS, nor even to the National Advisory Council on Vocational Education for use in connection with their advocacy role. Even though this body of work may find use within a state or local area, it should be clear that whenever Congress and other relevant audiences do not know of its existence, then for other purposes it might as well have never been produced.

Legislators comprise another group addressed in the paper, but I believe that the discussion might have been improved. For instance, one section of the paper refers to "narrow" (versus "broad") perceptions of the role of vocational education. This portion of the paper refers specifically to the emphasis in federal legislation to matters of: preparation for employment, job placement, and employer satisfaction with graduates of vocational education programs. In doing so the paper conceives of the legislative mandate for evaluation as if it were unduly narrow. It seems to me that such an approach fails to appreciate the perspective that such legislative provisions are completely consistent with at least one of the legitimate sets of values based on which vocational education's goals and accomplishments can be reviewed.

Another group considered by the paper consists of the employers of alumni of vocational education programs, and the paper refers to values with respect to entry-level performance, as well as progression over the long run. This portion of the paper appears to reflect a dilemma. On one hand, employers are said to be sensitive to the long run. On the other, employers are increasingly forced to adopt "narrow" hiring criteria, owing to recent court rulings concerning the use of criteria not clearly related to immediate job performance. Employers may use "broader" criteria only after demonstrating their relevance, but the burden of proof rests with them. This dilemma may have implications in terms of employers' values for the planning and evaluation of vocational education programs.

The paper also discusses values of adults, and of students as consumers of vocational education. However, the paper refers primarily to secondary-school-age students and does not explore the population of postsecondary and adult students, and how their values may differ from those of the teenage group.

In any event, in summary I believe that this paper constitutes a valuable beginning. It is a credible scholarly treatment of "perspectivism" in the general area of vocational education. Specifically, I appreciated the paper's emphasis on the need for credible documentation of the outcomes of vocational education, and on the need to undertake evaluative research.

It does not, however, seem well suited in my opinion to immediate use by states and local agencies in their required evaluation activities, for there are many questions that remain unaddressed.

The paper contains very little by way of review of existing impact research and outcome measures, and also of models and outcome measures related to various values that the author could recommend for future evaluative research. It does not indicate those types of outcome measures that relate to each of the important audiences, and does not address either the comprehensiveness or the adequacy of the measures now in use.

It does not adequately address the values that seem to underlie the 1976 federal legislation, nor those embodied in the several, major federally-sponsored evaluation projects currently underway. Although the paper constitutes an important beginning, there is still a good deal more to be done.

EVALUATING VOCATIONAL EDUCATION: A CONGRESSIONAL PERSPECTIVE*

Tonight, I would like to talk about two things: (1) the context in which the new evaluation requirements for vocational education came about in the Vocational Education Amendments of 1976, and (2) the nature of the requirements themselves.

I know you all are familiar with the history of vocational education so I will not review its development all the way back to the congressional enactment of the Smith-Hughes Act which initiated vocational education as we know it today. I will skip the first years and start with 1963 when a landmark vocational act was passed. The 1963 Act had the effect of broadening federal support for vocational education, and focusing more attention on it. The 1968 Amendments further broadened that Act and brought about some updating in programs through authorizing research funds and exemplary programs. These amendments also focused attention on special populations such as the disadvantaged, the handicapped, and on postsecondary students, whose needs Congress felt at that point in time were not being adequately addressed. Then, more recently, the 1976 vocational education legislation was passed which is why you are here tonight.

THE EDUCATION AMENDMENTS OF 1976

The 1976 Amendments build upon what happened in the past but they must also be viewed within their own context. During 1975 and 1976, Congress held very extensive hearings and found that the data showed vocational education to be very successful, at least, in quantitative terms. There seemed to be many more dollars being spent at the state and local levels for vocational education than ever before. There seemed to be many more facilities, more students enrolled, and some empirical evidence that there was success with those students in the program. However, the legislators in reviewing the progress of the Act were confronted with several problems.

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* A transcription of a presentation by John F. Jennings.

As I describe these problems, I would like to emphasize that I am in effect summarizing the House and Senate committee reports on this legislation since committee reports are frequently the best, and sometimes the only, documents which give a thorough explanation of the congressional intent surrounding legislation.

PROBLEMS ADDRESSED BY THE 1976 LEGISLATION

Isolation

In 1976, these committee reports stated a general conclusion that vocational education programs as administered at the state level in many states seemed to have too much of a tendency to be isolated unto themselves. In state departments of education, vocational educators sometimes were isolated from other parts of the state department. Within the states themselves vocational educators were too isolated from postsecondary educators; and, also, vocational educators were too isolated from the people operating Comprehensive Employment Training Act programs and other types of training programs. And, of course, the same was true in reverse: these other people who administered programs very similar to vocational education frequently isolated themselves from vocational educators and others administering similar training programs.

Use of Federal Funds

An additional problem seemed to be that there was difficulty in finding how the funds were being used, especially the federal money. This was true for a variety of reasons. In many states, federal dollars were mingled with state and local dollars so that you really couldn't tell what the federal dollars were bringing about or even paying for. Although the state plans were supposed to show the expenditure of federal money, they really didn't show much because they were merely compliance documents completed to fulfill the exact letter of the law. There also seemed to have been a problem with the attitude of the federal administrators in that they operated the program as a revenue sharing program without going out to the states to give them assistance or trying to correct misuses of federal money that occurred. It appeared that generally federal money was being used properly, but possibly it wasn't being used properly in some isolated instances; and no one knew for sure how many of those instances there were.

Lack of Good Data

Another problem seemed to be a lack of good data to show exactly what was happening, not only with federal money, but with state and local money as well. In one state, they counted anybody who was in career education as a vocational student, in other states they did not. In some states they counted students as vocational students if they were in one course for one hour a week, and in other states they did not. In some states you had to be a full-time student in a course for many hours, and in other states you could be a part-time student. Differences also existed across states as to the types of credentialing used. There seemed to be no uniformity in the data, even sometimes within a given state. So, if you were to take the testimony of people who said that things were going well, you couldn't really find out for sure because there was not the solid data base to back up those statements.

Lack of Follow-up

The last of what these committee reports called problems had to do with the inability to look at the quality of the programs. There were some witnesses who were able to show through follow-up studies that their graduates had done well. But this type of follow-up seemed to be very sporadic. You had somebody from a city saying: "We have this record that kids did well." But you really did not have any uniformity in the following up of those individuals over several years or data from other school districts in terms of whether that was true for different types of programs or even the same type of program over time.

THE CONGRESSIONAL CONTEXT

What Congress tried to do was to concentrate on these problems and bring about some solutions. At this point, I would like to repeat what the reports stated in describing these problems, namely that this description of problems was not meant to leave a negative impression of vocational education; rather, the Congress was trying to discover what the impediments were to a better vocational education system and was trying to help remove those impediments.

It was presumptuous in a way for Congress to try to address these things because the federal commitment to vocational education, even though it has grown in dollar terms, has in no way been able to keep up with the expansion of state and local funding. Though state and local money grew by 100 percent between 1971 and 1976, the federal appropriations increased by only 37 percent. Obviously, the federal government was by far a junior partner.

Nonetheless, Congress felt for several reasons that it should be bold in trying to say that certain things should be put into process. Congress was the first in trying to encourage vocational education in a national sense through enactment of the Smith-Hughes Act in 1917. And since then, Congress in this field peculiarly has been the body which has given some direction to vocational education, frequently out of proportion to the federal money which was being made available. Sometimes vocational educators look to Congress and are willing to accept some solutions even though Congress isn't providing the bulk of the money.

Further, the friends of vocational education in Congress felt that the ball game was being lost because within that same bracket of time when Congress was minimally increasing vocational education appropriations, barely keeping up with inflation, the appropriations for the Comprehensive Employment and Training Act (CETA) were growing by leaps and bounds. That program has gradually changed from a job retraining program as it was first constituted in 1962 to a public service employment program today with what seems to be a very low priority on job training. Yet, billions of dollars were going to the CETA program; and some Congresspersons felt that vocational education had to show a better record in order to be able to receive some of that funding. The congressional friends of vocational education felt that a better case could be made for the training provided by vocational education because that training produced a long-term productive solution instead of a short-term reactive solution.

In the Amendments of 1976, Congress tried to help vocational education make this case. First, more administrative flexibility was given to the states through "block-granting" most of the funds. But, then, second, the legislation concentrated on making changes in the way decisions were made by the states. In other words, the legislation concentrated on the decision-making processes at the state level. It seems that in vocational education, and, again, rather peculiarly, the state departments of education have quite a say in areas in which they don't always have a say in other types of programs. Consequently, Congress tried to impact on the decision-making at that level in four areas.

NEW AMENDMENTS

Planning Requirements

One area of change involved the planning requirements. They were to be very specific. In this Act, Congress was extraordinary in writing out exactly how the planning process had to occur at the state level. The law specifies the exact agencies within each state which must participate in the planning process. The law also says that there has to be so many meetings a year and describes what has to happen in each one of those meetings. That is extraordinary for a federal law. I think Congress felt a need to open up the decision-making process so that all elements of job training could get involved in the way in which federal funds were being spent.

Accountability

Congress also required that the state plan, which was the document to be used for this decision making, had to be very precise and had to say exactly where the money was going, and most importantly why the money was going for certain things. Now I will dare you to go back and look at state plans which were compiled in vocational education for many years to find these things, and you will not find many plans setting out the exact reasons why certain things were done. It seems a lot of things that were in the law were simply regurgitated in the state plans; and that document, in fact, was not a planning document that presented reasons why things were done or not done.

Improvement of Data

Another thing Congress tried to do was to include provisions in the legislation to enhance the chances for better data. In order to achieve better data, federal data gathering was transferred from the U. S. Office of Education to the National Center for Educational Statistics (NCES). And, the legislation also laid out the specific elements of data which had to be collected by the states and from the states. Congress also mandated the creation of the National Occupational Information Coordinating Committee and companion state committees to help the states and NCES with this task. These committees were also to work on achieving more uniformity in data gathering among all training programs and to work on achieving the use of better occupational demand data in those programs.

Evaluation Requirements

You are aware, of course, of the state evaluation requirements which are the last area with which the new legislation deals. Congress is saying that within the five years of its state plan each state has to evaluate all its programs. Evaluations of specific elements of programs offering entry-level training are required, i.e., as to what happens to the completers of those programs in terms of whether they achieve employment in job related fields and what their employers' opinions are of their abilities.

I want to discuss why Congress chose those criteria and why it did not choose other criteria. I think there was a feeling that a program which claimed that it was training people to send them out into the job market should minimally show whether the people who were trained in that particular skill did or did not obtain employment in that field, and secondly, what the employer thought of their capabilities.

There are many other things which could be taken into consideration because you cannot take human life and reduce everything to those two simple facts in order to judge "success" or "failure." There are always so many things in life, so many variables, that you cannot simplify and understand them all. But, it would seem that if there were any basic information that would serve as a beginning point to evaluate this type of program, namely a program claiming to offer entry level job training, it would be whether people became employed and what their employers thought of their training. Now perhaps if there is a low placement record, there are good reasons for that and those can be explained. Maybe there are particular characteristics of the program that make that type of criteria inappropriate and that can be explained also. Yet, it would seem that you have to start somewhere in looking at a program to determine its usefulness; and I think that is why Congress settled on starting right there.

Parenthetically, I would like to deal with a criticism I have heard of congressional action with regard to this new requirement. Some people say that if Congress wants to have such an evaluation made of the uses of federal funds for vocational education, it should mandate the same requirement for the programs of higher education supported with federal funds. Although on its face this criticism has some merit, it must be remembered that there is a basic difference in the manner in which Congress provides funds for vocational education and for higher education.

Vocational education really receives general institutional assistance with certain broad requirements placed on its use. Higher education does not receive institutional support; rather, the vast bulk of federal support for higher education goes out as grants to students and then each student decides where he or she wants to attend school and brings that assistance with him or her to that college or university. So, federal support for higher education has an inbuilt "quality" standard by relying on the judgments of millions of students as to which institutions they believe are the best for them or the most appropriate for them.

Vocational students cannot make that choice since the federal funds are given to state vocational administrators who grant them to local vocational schools. So, the "quality" check in this situation is now meant to be how these schools' programs fare in the newly required evaluations.

IMPLEMENTATION

NIE Report

Recently, I was given a draft copy of a report to the National Institute of Education on the status of the states' implementation of these new evaluation requirements specified in the 1976 Amendments. That report states the following conclusions.

First, it seems that approximately a third of the states are using their present systems for evaluation to comply with these requirements. Some of those states say that their systems comply, and others say that they do not want to change their present systems very much and so they will stay with what they have. There seems to be a second group of states, another third, which has gone about trying to change their present systems in order to bring them more in line with the spirit of the law. And finally, there is a third of the states which is just starting to implement some evaluation features. Some of them have started pilot procedures and are moving on to regular procedures next year.

Consequently, it is apparent that the states have a way to go before they will be able to meet these new requirements in full. It is understandable that the states are in this situation because up to now there have not been those types of strict requirements. But the states must continue to press on with their implementation if they really care about funding the programs which will provide the best possible training for their citizens.

Furthermore, the results of these evaluations are meant to mesh with the other three types of requirements which were put into the Vocational Act in 1976. If the evaluation data obtained are good, they should be put into the planning process so people will know what type of programs are successful and which programs are not successful. It would seem that if one secures good evaluation data, that type of data can be used at all different levels of decision making. In so doing better planning, greater accountability, improved data and good evaluations will mesh together, hopefully to bring about better programs in vocational education.

Title I Evaluations

The last thing I would like to discuss is what has happened with Title I evaluations and how that might have some meaning for what you are embarking upon right now. If I understand a recent report correctly, it seems that a strong effort to do evaluation on a comprehensive scale is a new thing in vocational education in most states. To do evaluations in a systematic manner seems to be very new for the vast majority of the states. Therefore, something might be learned by looking at what has happened in another education program where these types of evaluation requirements have been in effect for a much longer period of time.

Title I of the Elementary and Secondary Education Act of 1965 is the major federal program of aid to elementary and secondary education, involving approximately three billion dollars of federal funds for compensatory education for poor children. There have been legislatively-required evaluations for Title I programs since the mid-60s. Title I was the first major social program which included requirements that state and local evaluations of the programs be conducted. The amount of money spent on evaluations of that program has gone from one million dollars to over twenty million dollars in the last several years.

A report that was just done by the Stanford Research Institute in Palo Alto on what has happened with the evaluation requirements in Title I is directly relevant to what you are discussing at this conference. The first thing this report points out, and I know it to be correct, is that the congressional intent behind the Title I evaluation requirements was that local people should look at their programs periodically and try to evaluate them to see what could be done better and, hopefully, to put those improvements into their programs. From the beginning, the feeling on the congressional level has been that the primary purpose of these requirements is to try to bring about local program change.

This local perspective for the requirements was not carried out by the federal administrators of the program. Instead, the U. S. Office of Education went in the opposite direction in implementing that provision. Almost from the first days of the act the U. S. Office of Education tried to get nationally uniform data, data which could be aggregated at the state level, then aggregated at the national level. This would enable them to come to Congress and the administration and to tell them exactly the number of successes or failures in the national program. The only way they could see themselves doing that was to more or less impose, although sometimes indirectly, the use of reading achievement tests.

Consequently, what one finds in Title I, as you go all the way down the line, is that reading achievement tests are for the most part, used as the only criterion for success in that program. What that has meant is that what is being required nationally in order to achieve some type of national data has resulted in these evaluations having almost no influence on the local level in terms of changing those programs. In other words, it seems that the requirement that started out initially with a focus on the local level has been thwarted over the years in an attempt to get national data. What has been achieved to date is pretty well irrelevant to the people back on the local level. It may or may not be relevant at the national level.

Congresspersons are very happy to hear that the reading achievement scores in Title I have gone up by so many months because they can claim that is a wise expenditure of money and they like to go to the appropriations committees and tell them they have to put more money into the Title I program because the scores have gone up. And yet, if that is the sole use of the money, or the sole use of the evaluation data, it seems to have frustrated the primary purpose of the requirement.

You should keep this Title I evaluation phenomenon in mind as you try to implement the new evaluation requirements of vocational education. If all of you work for several years to secure some type of data which may or may not be accurate, but which can be aggregated and can be sent on to Congress, then you will not have carried out the primary purpose of the evaluation requirements. The primary purpose is to try to give local people, and state administrators, an opportunity to learn how their programs are operating and to help them improve those programs.

This local purpose for evaluation may be difficult to carry out because, as the report on Title I points out, there are several reasons why local people say that Title I evaluations are pretty much irrelevant to their decision making, even in addition to the nationally-required use of achievement tests. These reasons directly impinge upon what you are embarking upon. These factors are:

1. The stability of the program. As with many programs, Title I programs live on and on with a certain momentum to them. And if that is true in Title I, you can bet that it is true with vocational education, possibly to a greater degree.

2. The timing of evaluation. It seems that most of the evaluations produced in Title I just come at the wrong time of the year for them to be of much use to people who are reviewing the local programs. Again, that is directly relevant to vocational education.

3. Minimal linkage between evaluators and administrators. There is very little connection in most school districts between the Title I evaluators and the Title I administrators. This is especially true when outside evaluators are used in Title I. It seems that what they produce is not of great relevance to the people who really make the decisions in how to shape Title I programs.

4. Many diverse audiences. Title I has many different audiences and these audiences have different perceptions of what the programs are supposed to do. Also, they have different ideas of what type of information should be produced in evaluation. A number of audiences feel that achievement test scores are not a valid criterion upon which to solely judge the program. That problem of course

is one vocational educators face very intimately in trying to judge what type of audiences are to be served, what type of criteria should be used.

5. The state of the art of evaluation. This is a developing field and currently involves many divergent evaluation strategies.
6. Evaluations are perceived at the local level as a threat. If an evaluator reports a reading score on a Title I program which has not gone up to a certain degree, the Title I teacher or administrator has a fear of being called in on the carpet. Vocational educators face that same problem.
7. Problems are explained away. Regardless of what problems are contained in an evaluation report, the Title I staff is usually able to "explain away" why those things are there and be able to point out that one is not really looking at the right things and that there are other things to be considered.

Those seven things are more or less things which everybody dealing with evaluations of programs is going to face, and the task is not easy.

SUMMARY

This conference is a beginning of a significant discussion of where we should go with vocational education evaluation. There are so many variables and so many differences of opinion. A lot of things are going to have to be discussed and discussed over a long period of time so that we can gradually work our way towards a valid system of evaluation. In my opinion, the evaluation requirements in the Vocational Education Act are probably the most significant requirements in that Act, because over time they potentially could have the greatest effect on programs.

A number of vocational educators say that they cannot terminate local programs even when employment demand and placement for certain programs is quite low. For example, every high school wants to have a beauty culture course and there is no way state or local officials can go to those people and say your students are not being trained in an area of need. If you want to have that course, you must pay for it out of your own money. People at state and local levels have difficulty doing that now partially because the data are just not there to show that that is so.

Since we are beginning to face a situation where new dollars for education are going to be hard to come by, we must have some idea of which programs should be supported with our funds. Potentially, these new evaluation requirements in vocational education can give us some facts on which to base our decisions. And, as citizens, I am sure that we all want the most judicious use of our tax dollars. And as citizens, we want to make sure the programs offered are going to give students the best type of job training opportunities. You have an opportunity at this conference to debate those issues and to give us the beginnings of some answers.

OUTCOME STANDARDIZATION FOR COMPLIANCE OR DIRECTION: THE CRITICAL DISTINCTION*

Standardized outcome measures--ruin or salvation. Although the statement is reminiscent of sensational journalism, it does serve to anchor the extreme points of opinion with respect to the standardization of outcome measures in vocational education. Because the issue of standardized outcome measures is so salient to vocational education, I believe that it would serve a useful purpose to analyze the need and use of standardized outcome measures from the triple perspective of the federal, state and local levels.

The impetus for the use of standardized outcome measures emanates from federal vocational education legislation. Congress, in enacting the Education Amendments of 1976 - Title II, stipulated that a vocational education reporting and accounting system be established. This data system, commonly referred to as VEDS, is to be based on uniform definitions and is to contain elements descriptive of vocational education students, programs, program completers and leavers, staff, facilities and expenditures. Examination of House and Senate reports accompanying the legislation reveals that VEDS was established to overcome the lack of adequate data describing the vocational education enterprise in this country. A common complaint echoed in the testimony was that vocational education data were not compatible across states and hence that aggregations at the federal level were of questionable validity as indicators of the status of vocational education. This situation was frequently described by the adage that "you can't mix apples and oranges and get anything but fruit salad." Given the pervasiveness of the problem and the harmony of voices raised in protest of the lack of adequate data, Congress responded by mandating the establishment of a nationally uniform data reporting and accounting system in vocational education.

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* Presentation by Donald W. Drewes.

In addition to VEDS, Congress introduced further standardizations by requiring that all state vocational education programs purporting to impart entry level job skills and receiving assistance under the Act be evaluated according to the extent that program completers and leavers find employment in occupations related to their training and are considered by their employers to be well-trained and prepared for employment. This requirement, coupled with the requirement that evaluation data be included as part of the VEDS, made standardized outcome measures in vocational education a reality. Given the existence of this reality, I would like to spend some time tracing the implications for vocational education. In order to do so, it is necessary to examine the effects of standardized outcome measures as they impact across federal, state and local levels.

The Federal Perspective

Melvin Barlow noted in his bicentennial review of vocational education that the greatest influence on vocational education has been the Congress. This influence is currently focused on the use of information in vocational education to improve rational data-based planning. The philosophy underlying the recently enacted legislation is that better data will result in better decisions, and that better decisions will ultimately improve the quality of vocational education. Concurrent with their emphasis on the need for information to support better decision-making is the requirement for information to monitor the progress of vocational education to ensure that the intent of the legislation is being carried out. It is these two themes--the need for information to support improved decision-making and the need for information to support monitoring of the status of vocational education--and their complex interplay that provides the Congressional rationale for standardization of outcome measures.

Congress, in carrying out an expanded monitoring role, provided for the flow of standardized outcome data from the locals, through the state to the federal level. This information is to be provided by VEDS to the Commissioner of Education who is required to submit an annual report to Congress on the status of vocational education. This report is to contain an analysis of the data, presumably to determine its policy implications, and is specifically mandated to contain a summarization of the outcomes of vocational education as measured by the standardized outcome data. So as to have an independent check on the status of vocational education, Congress also provided that the National Institute of Education undertake a thorough evaluation and study of vocational education at state and local levels and report its findings to the president and to the Congress no later than September 30, 1980. One can but surmise that these data will be used for continuing oversight of vocational education. It is quite conceivable that Congress will publish an oversight report on the implementation of the Educational Amendments of 1976. Certainly the increased availability of standardized outcome data cannot help but influence Congressional opinion as to the ability of vocational education to respond to prevailing economic and social needs. The valence of this opinion will have its impact on subsequent Congressional appropriations and will undoubtedly shape the format of federal vocational education legislation.

The effects of standardized outcome measures will extend beyond the halls of Congress. The administration position with respect to vocational education could easily depend upon the image of vocational education as portrayed in the annual status reports. The result of their perception might well be reflected in the administrative budget with allocations to vocational education conditioned by the administration view of vocational education's ability to impact on significant social and economic problems of immediate political interest.

Advocacy of vocational education at the national level would be facilitated by the availability of standardized outcome measures. Professional organizations like the American Vocational Association would have access to information documenting the progress of vocational education and the extent of unmet needs remaining to be served. Given the credibility of the process used to generate these data, this capability to document progress and needs might increase vocational education's competitive position with respect to the share of federal funds received. The same positive results might accrue to the National Advisory Council. Availability of a pool of standardized output information should provide them with a data base for the monitoring of the progress of vocational education in meeting the national manpower needs.

While offering the possibility of positive effects at a national level, uniform data on the quality of vocational education might have some unforseen consequences. Provision of a single data base will result in all agencies using essentially the same source of information on which to base their decisions. The possibility of all actors at the national scene having access to a common data base poses some interesting questions. For example, 'Will the advantage go to those who have the capability to make the most astute analysis of the data?' All of us who have experience in data analysis know that data present no clear cut evidence as to underlying causal factors. The same data lend themselves to multiple interpretations with differential policy implications. Given this to be the case, one might rightly be concerned as to whether the advantage will go to those who are most astute in the use of data to buttress arguments that are supportive of their position. Since agencies would be using the same intelligence system, agencies like the National Advisory Council might find it difficult to maintain an independent and impartial vantage point. Efforts to acquire independent data for purposes of verification would be so limited in comparison with the size of the national system that its utility for verification purposes would be questionable.

Use and ultimate utility of a standardized vocational education data system will depend on whether this system is primarily accounting or decision-oriented. An accounting orientation will predispose the collection and reporting of standardized indicators of the status of vocational education. These indicators would be periodically released in the form of reports with fixed format and content. The purposes would be to provide descriptive information on vocational education students, programs, expenditures, staff and outcomes as measured by follow-up studies of completers and leavers. The principal utility would be to provide baseline information on the progress of vocational education. Since data elements would theoretically be based on uniform definitions and standardized collection procedures, data could be aggregated at the national level, thereby avoiding the traditional 'apples and oranges' problem. Vocational education status indicators would be similar in concept to the national labor market indicators collected by the Bureau of Labor Statistics and demographic data collected and reported by the Bureau of the Census.

In contrast, the decision-oriented approach would emphasize the analysis of standardized data to support policy decisions. Rather than providing a static accounting of the progress of vocational education, a decision-oriented system would be structured so that the data could support the identification, formulation, and choice of decision alternatives. The emphasis would be more on the use of historical data as a basis for anticipating future trends and the analysis of data to support testing of hypotheses about the causal factors interacting to produce the observed results. Because of the need for data to support decision making, greater flexibility in output format would be required, with implications for data storage and retrieval. The data system would have to be structured to allow greater accessibility to the data files on an as needed basis.

The development of a standardized vocational education data system will both shape and be shaped by the context in which it evolves. The accounting orientation has the support of precedent and is congruent with the accountability thrust of the present legislation. One would anticipate that an accounting-oriented vocational data system would place primary emphasis on the production of vocational education statistics descriptive of the condition of vocational education. On the other hand, one would anticipate that a decision-oriented data system should be capable of providing information that enhances the quality of administration of vocational education at the federal level. More specifically, one might argue that improved access to standardized data should have utility in occupational and manpower planning, identification of issues and problems of national significance requiring applied research and development, sharpened perspectives on forthcoming issues and challenges facing vocational education, and improved integration of vocational education into a comprehensive manpower delivery system.

The most critical consideration governing the use of standardized data at the federal level will be whether data are used primarily to ensure compliance or to support improved leadership. A choice for compliance will result in the data being used primarily to monitor the performance of vocational education for the purposes of accountability. Emphasis on the decision-making orientation will result in data being used to support a stronger advocacy position for vocational education.

The use of data at the federal level is constrained by the nature of the federal-state relationship. The constitutional separation of powers places responsibility for education at the state level. Consequently the federal role in the federal-state partnership, as historically defined, has taken the shape of federal financial aid to the states to assist them in dealing with problems of national concern as defined by Congress. The states, in principle, are free to establish their goals. Once goals are established, it is the federal responsibility to determine that means chosen to achieve these goals are in accordance with legislative intent. This partnership relationship by its very nature is conducive to use of data as a measure of compliance. As a result of the emphasis on accountability, contemporary data systems have been primarily accounting type data systems.

The State Role

Because the constitutional authority for education resides with the states, Congress has assumed that the responsibility for vocational education also rests with the states. As exemplified in the Educational Amendments of 1976, the state is cast in the role of a master planner. The state plan as the master blueprint, in accordance with the principles of rational planning, is to contain a statement of the need for job skills within the state, the goals that the state will seek to achieve in satisfying these job skills, and a description of the programs and courses to be offered to achieve these goals. In addition, the plan is to include a description of the use of federal, state and local vocational education funds for the achievement of these stated purposes.

The legislation draws no distinction between the state's role in goals planning and in its role in program planning. Goals planning is concerned with the determination of what needs exist to be fulfilled. Program planning, in contrast, refers to the way that resources are combined and marshalled to serve identified needs. In many instances, states have delegated responsibility for program planning to the local level. The result is that although the state may be able to identify goals, they do not have direct control over the delivery system to achieve these goals, the reason being that in most instances the responsibility for the ultimate delivery of vocational education programs resides at the local level.

Although the states have constitutional authority for education, they have in effect delegated this authority to the local level. As a result, the state is in much the same position with respect to the locals that the federal government is in with respect to the states. The effect is that state use of vocational education data has evolved mainly as an accounting function in response to federal reporting requirements. Since relatively few states are in a position, nor would they wish to impose the state will on the locals, there has been little need for information systems to develop to support rational centralized program planning. As a corollary, there has been relatively little need for state systems to include output measures of local performance. Because of state law, state board of education policies, and the relationship of vocational education to general education, there is relatively little discretionary authority over the flow of federal and state funds to locals.

The disparity between the *de jure* structure of the legislation and the *de facto* structure of reality is exemplified in the difference between state and statewide needs. State need connotes that a need is defined by the state agency by virtue of its centralized authority. Statewide need, in contrast, connotes a need that is pervasive throughout all the local units comprising the state as a geo-political entity. Statewide in this context becomes operationally defined as a need experienced by a majority of locals. This definition tends to shift responsibility for need determination from the state to the local level.

The Local Scene

Decision making at the local level is frequently influenced more by political considerations than the need for data to drive rational planning models. Need for programs is often based on community rather than statewide considerations. Local advisory councils represent a widely used means of gathering information about local needs and concerns. Other sources of community input include school board members who are generally influential community citizens, community pressures focused on the superintendent and other school administrators, and the community linkages maintained by vocational education teachers in the conduct of their courses.

A host of associated factors mitigate against rational data-based planning as interpreted by planning scholars. Decisions at the local level are frequently constrained by scarce resources. Since state monies tend to flow according to enrollment statistics, administrators are reluctant to drop courses that are popular and hence paying their way simply on the basis of outcome statistics showing placement rates in occupations related to training. Educational resources are frequently not easily transformed into other uses. Staff, equipment and facilities, once acquired to support particular program offerings, are not easily shifted to accommodate newly emerging demands. The scarcity and frequently limited substitutability of resources tend to restrict the discretion of local decision makers and thereby reduces the utility of data to contribute to improved program planning.

Because the accounting (indicator) data frequently required for reporting purposes are of limited use in local level decision making, the collection and reporting of such data are largely an overhead cost. Data collection and reporting efforts are geared to minimize this overhead cost with consequent effects on the quality of the data reported. Since many of the locals understand the economics of this trade-off and its consequences on the quality of data reported, they express little or no confidence in higher level aggregations of this data.

Although this discussion pertains to data systems in general, the application to standardized outcome elements is immediate. Local schools with established vocational programs linked into the community infra-structure, are not going to be dissuaded to stop offering a program simply on the basis of output data showing low placement rates in occupations judged by an external standard to be related to the program. The program may, for example, be a popular program with the student. The instructor may be well liked by both students and community and the program may be perceived by the community to be serving a useful community function. A prime example of this phenomena is vocational agriculture. By a strict interpretation of production agriculture, placement rates might be low for a particular program, yet the program may have widespread community support in rural communities.

Statistical data that are inconsistent with the nexus of information regarding program support will tend to be neutralized by challenging the validity of the data. This challenge can take place on a number of grounds. A likely basis of challenge would be on the definitions and values underlying the data. With respect to standardized outcome measures, this challenge would focus on the validity and acceptability of the concepts underlying the data source. Criticism of placement rates would likely take the form of criticism of the definition of related occupations and a challenge as to the efficacy of placements as the sole indicator of the value of vocational education.

Again, referring to the vocational agriculture example, the validity of the data might be challenged on the grounds that production agriculture represents but a small fraction of the occupations that require the skills developed in vocational agriculture programs. This argument might also be augmented by the contention that vocational agriculture teaches a philosophy and a way of life that is urgent for the preservation of the values and morality of rural America. The negative effects of low placement rates might be further countered by the argument that vocational education prepares people for work rather than for specific jobs. Using this reasoning, the data could be said to provide misleading results in that they did not depict the number of vocational students who created their own employment because of skills learned in vocational programs, nor did they account for the contributions made by vocational education to the subsequent career achievements of vocational students.

The purpose of these examples is to illustrate that the use of outcome data is largely a matter of attitude. If the data tend to be in accord with prevailing attitudes, the results will tend to be accepted as a rationalization of the validity of the foundation values and beliefs. If, on the other hand, the data are at cross purposes with these fundamental values and beliefs, the validity of the data will be challenged in an effort to reduce the dissonance created by the incongruent piece of evidence. Those of you acquainted with psychology will recognize this as an example of cognitive dissonance theory which states that a person will act to reduce the dissonance created when information conflicts with values. Basic values and beliefs change slowly and only after data have repeatedly shown that these beliefs and values are inconsistent with reality or lead to actions with adverse consequences.

State-Local Relations

States are often reluctant to take punitive action on what may be interpreted as adverse outcome data. For one thing, many state vocational educators share the same apprehension and reservations about the ability of outcome data to capture the essence of quality. They are also astute enough to realize that neither the state nor the federal government can mandate quality programs. Since many of the state supervisors and consultants have carefully nurtured a network of relationships with local personnel, they are unwilling to jeopardize the continuance of these relationships by taking precipitous action on the basis of information contained in standardized outcome data. They realize that whereas they may be able to force a small change in program design and operation, a show of force would ultimately reduce their effectiveness as facilitators of long-run program improvement. State level vocational education professionals also in the main realize that positive change is a slow evolutionary process. State input, if it is to effect change at the local level, must first be accepted at the local level.

This acceptance depends upon the extent to which the information is regarded as credible and the source, legitimate. The process of establishing credibility at the local level is slow to build since it depends upon a relationship of mutual trust. The real business of facilitating programs is done on a personal basis through informal relationships. Thus, the formal data flow is often a matter of formality with decisions having been reached by common concensus. In this personal relationship, the state partners generally respect the sovereignty of the local to be in the best position to know its local needs and conditions.

The formal-informal relationships between state and local are paralleled by the flow of information. Formal information tends to be that required as a matter of compliance and is generally imposed by federal and state laws and administrative policy. Whereas the formal information structure supplies the data for reporting requirements, the informal information structure generates much of the input into the decision-making system. As a result, the formal structure acts as a pipeline or conduit of information for data reporting purposes that flows upward through the state and ultimately into the sea of federal information. Because this flow tends to be isolated from the informal system, this information has relatively less impact on decision making and serves mainly for satisfying compliance purposes. The state in this process functions much as a centralized warehouse, collecting information from the locals, packaging it, and forwarding it on to the federal destination.

Whatever problems existed at the state level with respect to mandating quality are magnified manyfold at the federal level. The federal level, being further removed from where the action is, has to rely on the data generated by the formal system for information as to the current status of vocational education. Lack of informal information makes the federal level dependent upon formal information for intelligence with the result that the data, including standardized outcome data, present a rather cloudy, incomplete, and frequently inaccurate picture of vocational education.

Suggestions for Improved Utilization

Given the structure of vocational education and the impact that this structure has on information, the question of immediate concern is what can be done, if anything, to increase the effective utilization of information by vocational education decision makers. To say that I have the answers to these questions would be presumptuous. I can only share with you some views and notions as to how the process might be modified with the hope of improved data utilization.

I believe it imperative that we distinguish between the use of data for reporting purposes and the use of data for program improvement. In recognition of this distinction, I propose that we find a small core of standardized data elements that will serve to indicate the status of vocational education. The data elements to be collected should be judiciously chosen so as to present the maximal amount of information to the major users of vocational education data at the national level. The dimensions of this core of data elements should span the six categories provided for in the legislation. Specific elements within each of the six categories could be chosen so as to answer the most frequently asked questions of vocational education. Since Congress is the major consumer of vocational education information at the national level, it would seem appropriate to use their informational needs as criteria in selecting the data element composition for the core of indicator items.

The temptation to expand the core of indicator variables collected should be resisted, lest the burden of collecting this information on a regular basis become too burdensome and costly for the benefit accrued. Because no data core regardless of its size can answer all the questions that might be raised, provision should be made for rapid survey capability to secure answers to questions, providing that there is sufficient need. One salient indicator of need would be the willingness of Congress or a federal agency to appropriate money for the conduct of the survey.

To insure comparability of the indicator measures, their format should be rigorously controlled. This could be achieved by uniform definitions and standardization of the collection procedures. Development of uniform definitions and standardized collection procedures should be under the auspices of the agency having responsibility for the collection of indicator data. Since the National Center for Education Statistics has legislative responsibility for the education data function, this agency would be a logical choice. The elements should be operationally defined and the collection procedures based on a sound technical and statistical methodology.

The data elements should be structured so as to permit rapid retrieval of information in a flexible format as defined by the user. The flexible format would circumvent the present difficulty of information being available only in the tabular report forms chosen by the report writers and updated only as often as the agency publication schedule permits. Those of you familiar with federal report publications know that this updating often entails a considerable time lag.

The role of the state and locals in this collection process varies considerably. One option would be to use Arthur Lee's idea and have the locals submit data on individual student records in machine readable form. This would circumvent the rather cumbersome current process and would eliminate the laborious activities associated with filling out current reporting forms. However, this assumes that most local schools have data processing equipment. Another possible limitation is that the sheer number of records involved would exceed the processing capacity of a centralized system.

An alternative to securing information directly from the locals would be to use the state system as an intermediary. State systems could be used to preprocess the information obtained from the locals and could send the processed data to the national level in machine readable form. Since most states have automated data processing capabilities of some sort, this would overcome the equipment limitations associated with having the locals directly involved. The states might also exercise some preliminary processing such as reliability and validity checks on the data to ensure that they are in proper form. By decentralizing some of the responsibility to the state level, the states could be more involved in the process and the burden imposed on the central processing unit could be reduced. In this sense, the system could function much as a distributed computer network.

So far I have not touched on how the reporting burden may be reduced. This could be accomplished in a variety of ways. First, the reporting burden could be reduced by restricting the size of the common core of indicator variables requested. Locals might be paid to provide the information according to federal reporting standards. This would make for a more equitable relationship since if the federal government were paying for the data they certainly could expect to have it reported according to their specifications. Another option would be to pay an independent agency to sample data from the schools much like the

Census Bureau now secures current population data from samples of households. It is conceivable that the state agency might be paid a stipulated amount to secure this information on a specified sample of units according to the standardized procedures.

The major question raised by the critics would be that of cost. I maintain that the cost would be no greater and might result in a savings. Indicator data collected on a well-drawn sample could provide data of sufficient precision for federal purposes at significantly less cost than the universal sampling currently being used. The fact that schools would be paid for their effort expended in collection of data according to externally defined standards would certainly do much to improve the quality of the data collected. The major difference in this proposed method and that currently being used is that the cost of collecting data would be directly borne by the federal government rather than indirectly shifted to the states and locals. Funding for this data collection effort could be achieved by several methods. Congress might provide a special appropriation to NCES for performing this function. Another option would be to transfer a stipulated amount of vocational education appropriations to NCES, or a third option might be to stipulate that the states use funds authorized for planning under Section 102(d) for purposes of data reporting.

The effect of these recommendations would be to test the utility of data indicating the status of vocational education. If these data have utility at the national level, then Congress should be willing to pay for the collection of these data in the same way that it provides for the collection of unemployment and employment data and census indicators. If there are no advocates for the collection of data at the national level, then it is not cost effective to collect and should be discontinued.

To say that data only have use for reporting purposes would be a pessimistic prognosis for the future of vocational education. I am optimistic that the quality of vocational education decision making can be perfected by the provision of improved data. Furthermore, I believe that the route to significant improvement is through the medium of technical assistance. The focus on assistance is consistent with the purpose of the 1976 Amendments and provides a more positive approach to improvement than that provided by a compliance emphasis. I believe that if the federal-state-local partnership is to be more than rhetoric, then each partner must bring something to that partnership.

The federal and state contribution to that partnership is assistance provided in a spirit and form to augment and strengthen local operations. The local role in this partnership is to accept assistance in the spirit in which it is offered and to rise to the challenge of a quest for continued improvement.

A national data base of standardized indicator variables could provide the mechanism to support the provision of technical assistance at the federal level. Three principal agencies could be cooperatively involved in the assistance effort. The Bureau of Occupational and Adult Education (BOAE) has legislative authority for the administration of vocational education legislation. The National Center of Education Statistics (NCES) has legislative authority for the development and operation of a national vocational education data system. The National Occupational Information Coordinating Committee (NOICC) has responsibility for the design and implementation of an occupational information system to serve the national, state and local needs for occupational related information. Working in close conjunction, these agencies could exert a powerful force for the improvement of vocational education through the increased utilization of standardized data. Analysis of the national indicator data to determine the implications for vocational education would provide an informational basis for the provision of technical assistance.

Capability within the Bureau of Adult and Occupational Education to analyze data for its policy and management implications would contribute significantly to the enrichment of BOAE leadership functions. Exemplary data capabilities might be the identification and interpretation of emerging trends in the demand for and the support of vocational education. Enrollment data could be analyzed for shifting patterns and the factors associated with these patterns identified. Similar analyses could be conducted with respect to vocational education completers and leavers with a view toward identifying the individual and programmatic factors that contributed to successful vocational education outcomes as determined by a variety of criteria. Insights into the factors associated with vocational education performance as measured by the standardized outcome indicators would serve as an objective basis for identification of problems of national significance. Such data offered to the states in the spirit of assistance could constitute a salient force for change. By providing the state assistance in the interpretation of the data and its significance for vocational education, state and local levels would see some possible benefits accruing from the data that they had provided.

The technical assistance role also includes NCES. A principal role for NCES would be to play the lead agency role in the development, operation, and updating of a policy-relevant vocational education data system. Policy relevance would at the minimum, require analytic capability in the system to support the determination of functional relationships between data elements. This would require data-based management and support of statistical analysis procedures. Policy assistance to other agencies might take the form of simplified computing routines and/or the provision of personnel assistance in analysis and interpretation. Technical assistance could be provided to the states in order to facilitate their use of data to support administrative decision making. This assistance might take the form of suggested analytical procedures that the states could use in analyzing their state level data bases, alternative methodologies that the state might wish to employ to augment the indicator data currently being collected and reported nationally, and training packages and conferences designed to facilitate the understanding and use of reported data. Methodological assistance in the collection and analysis of data at the state level would serve to stimulate the demand for more and improved data. The important consideration is that the demand would emanate from the users' need for data to support internal operations rather than to satisfy external reporting requirements.

The occupational information system to be developed by the National Occupational Information Coordinating Committee (NOICC) is yet another potential mechanism for stimulating the use of data in response to internal needs. Whereas NOICC is to provide the design standards for the development of an occupational information system, the responsibility for implementing this system at the state level rests with the State Occupational Information Coordinating Committees (SOICC). The relationship between the NOICC and the network of SOICCs provides yet another mechanism for technical assistance. The NOICC, in addition to providing standards for the design of an occupational information system, could assist the states in interfacing and drawing together the large complex data producing systems in the state into an integrated informational network. Occupational demand data could be more effectively linked with supply, and a more integrated picture of supply could be provided across educational levels and agencies concerned with human resource development. The requirement for standardization of definitions across systems could provide a vehicle for the linkage of these systems at the state level into a more cohesive and comprehensive informational system. By linking the existing data systems in the state into a confederation of systems based on shared definitions, it should be possible to shape the information into a variety of formats to suit the needs of various user groups. By serving as a vehicle to promote dialogue between various user groups and the producers of data, the SOICCs can perform a useful function in facilitating improved understanding of data that is currently available, the methodology underlying its collection, and the potential uses to which this data might be put. NOICC could fulfill a useful function by providing technical guidelines and assistance to the SOICCs in organizing and focusing state efforts on the implementation of a unified occupational information system. This assistance could take the form of technical manuals designed to facilitate state understanding of the procedures underlying the collection of certain data elements, assistance in performing needs assessments to determine the informational needs of various user groups at state and local levels, provision of information descriptive of the alternative methodology for collecting information identified as being needed, and stimulation of state interest by providing financial support for the collection of information that might satisfy a need common to a variety of users. One example of such an area might be that of a statewide survey to determine the universe of need for education and manpower programs. NOICC could promote this activity by providing funds and technical guidelines to the SOICCs to assist them in coordinating this activity within their respective states.

State occupational information coordinating committees could become the nucleus for the promotion of the use of data for the improvement of education and training services. For one thing, the explicit purpose of the SOICCs is to improve the dialogue and cooperation existent between agencies involved in the delivery of education and manpower services. A concern for occupational information is the common basis and provides the rationale for SOICC organization. Since SOICC exists as a vehicle to focus coordinative attention on the need for and the use of occupational information as a means of securing improved program planning, each state for the first time has a staff committed to the promotion of the development and use of a coordinative data base. Thus, the SOICCs have the potential to launch a movement to more actively involve a wide constituency of data users and to develop support for increased involvement in the data production process.

In order for this movement to achieve its fullest potential it is imperative that the concept of cooperation inherent in the SOICC structure be extended to the local level. The extension of a state level network of information users and producers can be extended into the regions by the establishment of a network of regional information centers--one center to be established for each region. The major purpose of the regional information centers would be to function as the hub of a regional information system. The major purpose of a regional information system would be to interject the uniqueness of local labor market conditions into a comprehensive statewide information system. Functions of the regional information system would be both to collect and provide occupational career and educational and manpower information pertinent to the region served by the center. Regional information centers might provide information on current and projected occupational employment for that region, current job vacancies in the region, demographic information pertinent to the region, information on current and anticipated economic conditions, information on the availability of training and education opportunities of the region and evaluative data gained from follow-up and placement of the clients of CETA and vocational education programs as well as other programs that might eventually carry out follow-up activity.

Regional information centers might also be repositories for information (from a variety of sources) that pertains to the social and economic characteristics of the region. With regard to career information functions, regional information centers could provide information and referral services to people concerned about the availability of education and training opportunities in the region. The centers could also provide information on available assistance in the region for job placement, counseling and guidance services or for other programs designed to prepare and assist people in finding suitable employment. Additionally, they could provide information about duties, requirements, wages, and employment prospects for a variety of occupations to be found in the region.

These regional information centers could also supply information to a host of local community organizations. Examples of organizations receiving input from regional information centers might be occupational counseling and guidance centers at both secondary and postsecondary institutions, local and industrial development commissions, planning officers of educational and CETA agencies, local community education and work councils, community action agencies, county and metropolitan planning officers and a variety of citizen action groups. Data collection activities of regional information centers might include: collection of information from employers as to job vacancies, characteristics of workers customarily hired, including skills necessary to perform the job, required personal qualifications, training opportunities, and hiring requirements. Because of the involvement of local representatives in the operation of the center, the likelihood of employer participation and provision of information would be greatly enhanced due to increased rate of return for the employer--both in terms of better trained employees and the public relations accruing from participating in a community-based activity.

A regional information system could also contain information that could be used to assist in the planning of vocational education and manpower programs to serve the region. Program planning information might include an inventory of education and training opportunities in the region provided by vocational/manpower program delivery systems and training programs provided by private employers. Regional information centers may provide a technical assistance function through the provision of a wide variety of information. This information might include legislation--both federal and state--pertaining to the development of resources at state and local levels, federal and state rules and regulations that might have an impact on local planning of education and manpower services and reports and other documented results of research and development efforts of other states and communities in dealing with the problems of developing human resources.

These regional information centers could serve much as public libraries with information available upon request. Information from the local vocational education data system maintained by CETA prime sponsors, and data systems maintained by local employment security agencies could be provided to the regional information centers. This would make information readily available that would provide public knowledge of the effectiveness of education and manpower service delivery programs.

Thus, I have come full circle. Whereas the locals are the originators of data describing the outcomes of vocational education, they must also be the final users of this information if any benefit from them is to result in the ultimate improvement of vocational education. The proposed system provides this feedback link under the general rubric of technical assistance--

flowing from the federal to the state and finally through the regions to its ultimate use in the decisions that shape the process and ultimately the final outcomes.

The challenges are great. However, I believe that the time for action is now. Legislation has created a mandate for the improved use of information and has created a variety of mechanisms to support this improved use. Whether history will ultimately record these mechanisms as yet another futile attempt, or whether they will provide the means to move us to a new plateau depends upon our foresight, ingenuity and imagination in structuring these mechanisms to serve our needs. I am hopeful that vocational education will play a lead role in these pioneering efforts. Although the challenges are great, I believe that vocational education has the vitality, the ingenuity, and the creativity to overcome these obstacles and to move to greater achievements in the promotion of human well-being.

REACTION TO OUTCOME STANDARDIZATION FOR COMPLIANCE OR DIRECTION: THE CRITICAL DISTINCTION*

Donald Drewes has, I think, performed a real service in focusing attention on two purposes for which standardized outcome data--and a national vocational education data system--may be used. They are not incompatible, certainly not mutually exclusive, and I don't think Don is suggesting that they are. What he does say is that the ultimate utility of a national information system will depend on whether it is primarily accounting oriented or decision oriented.

He makes an excellent case for the decision oriented system with its greater flexibility and analytical capability as opposed to an accounting oriented system of limited status indicators. In the latter we would have the collection and reporting of fixed data elements--like percentages of the total vocational education enrollment represented by the disadvantaged, handicapped, and ethnic minorities. In a decision-oriented system, we would have the data from which these percentages are obtained, collected and made available in such a way as to know where the disadvantaged, handicapped, and ethnic minorities are benefiting most from vocational education--and where they are benefiting least--in terms of occupational programs, program levels, kinds of institutions, and even the neighborhoods in which they live and the particular schools they attend.

In other words, Don is saying that the national vocational education data system, which Congress intends to be the basis for planning and program improvement, should have enough analytical capability to enable administrators and decision makers at every level to know the particular circumstances under which one or another of these target populations is likely to benefit most, and which circumstances should be avoided. I believe this is what Don is referring to when he says that the most critical consideration governing the use of data at the federal level will be whether the data are used primarily to ensure compliance or to support improved leadership.

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* Reaction by Arthur Lee to Donald Drewes' presentation.

What Don also seems to be saying is that the decision to use the data to ensure compliance or to improve leadership cannot be made after the system has been developed. It has to be made now. Actually, the question is really whether to develop a system capable of providing both kinds of data or only one. We can have compliance accounting from a system that is also capable of providing data for planning and decision making, but we cannot have decision oriented data from a system developed only to produce accounting data.

One of the problems in developing this kind of a system, as Don points out, is that most of the state systems were not designed for both purposes. Their major purpose was, and still is in most cases, to perform an accounting function "in response to federal reporting requirements." It is a very interesting point that Don makes when he says that the state's role is usually not program planning at all, but goal planning. Program planning is a function of the local school districts.

What, then, are we doing with all of the emphasis--in federal legislation, at least--on program planning at the state level? Don suggests that casting the state in the role of a master planner results from a mistaken assumption by Congress that the responsibility for vocational education rests with the states, whereas only the authority resides with the states. Responsibility has been delegated to the local education agencies. Many states simply recognize this by building their state plans out of the total of their local plans.

Don also discusses the difficulty that local schools, especially, have in trying to change program as a result of negative employment demand data. The whole question of relating planning and program decisions to employment supply and demand has encountered a great deal of opposition. We have given it lip service because it sounds like something we ought to be doing, but since the Amendments of 1976 were passed, I think many vocational educators are beginning to object to the whole idea. Don mentioned the vocational agriculture people as an example of rejecting this kind of data if they were in conflict with one's basic beliefs. Mary Kievit, yesterday, discussed the influence traditional values have on policy and change. And last night there was quite a discussion between Jack Jennings and some of the conference participants about using placement data as the basis for evaluating vocational education.

I wonder too if the concept of employment market supply and demand data should continue to be the principal measure of vocational education output. Don doesn't say this--and I am digressing from his paper for a moment--but I wonder if our insistence on that one measure as almost the only basis for judging program success, and therefore the major consideration in program planning, is one of the reasons that vocational education data systems tend to be accounting oriented instead of decision oriented. I think we should take Jack Jennings' suggestion seriously when he said last night that perhaps Congress should reconsider its use of placement as the measure of accountability in vocational education.

Before 1963, I don't think there was any question about the federal support role being based on this concept, and probably most of the states' responsibilities as well. I am not sure about the local education agencies. Frankly, I doubt if placement was ever as important to the local education agencies as student demand and student satisfaction. And I think it is still that way. Moreover, the federal legislation in 1963--with the amendments of 1968, 1972, and 1976--support that position even while insisting on placement as virtually the only measure of success. The purpose of that legislation is spelled out in the first section--repeated with every set of amendments; it is that, " . . . persons of all ages and all communities . . . will have ready access to vocational training or retraining which is of high quality . . . which is suited to their needs, interests, and ability to benefit from such training."

It was pretty well established in the 1963 Act that a major shift was intended from emphasizing programs to emphasizing persons served. This was further indicated by the emphasis on helping particular groups of persons--the disadvantaged, the handicapped, ethnic minorities, females, and postsecondary students.

It seems to me that the federal purpose in supporting vocational education is not so much to place students in occupations for which employment market projections indicate the demand will be greatest, but to ensure that every person who can benefit from quality vocational education be given the opportunity to do so. There is a difference. Let us go back to Don's example of the vocational agriculture advocates who criticize employment market supply and demand data as inadequate because those data do not measure all the benefits that vocational agriculture students may be receiving. The federal purpose says nothing about student placement, but does say that all persons who can benefit should have access to a quality program. It may be inferred that this means a program of their own choice. And this is exactly what the vocational agriculture people say they are doing.

What would be wrong with developing outcome data which measure the achievement of the stated federal purpose? My own view is that we should continue to measure placement and placement effectiveness, but that evaluation of vocational education--the basis upon which programs are judged--should be shifted from placement alone to placement as only one measure of competency. I think Congress should look at other measures of competency, and perhaps build them into the next federal legislation. Competency testing has been neglected in vocational education, and that is one of the reasons for periodic attacks by critics. Too often vocational educators who know that their students have developed definite levels of competence in occupational skills have no way of proving it except through the uncertain chance that jobs requiring these skills will be immediately available and that all of their students are ready to accept them.

Competency testing as an outcome measure should not be too difficult, even with national standardization. We have it in apprenticeship programs. We have it in the health occupations, we have it in the aircraft maintenance field, and if competency were to be measured in specific skills rather than by whole occupational programs--which often do not match employment demand categories anyway--the whole thorny problem of related occupations raised by relying on placement data would be solved. In any case, would it not be better to know the extent to which persons in all communities have access to vocational education programs, and the extent to which those programs are of high quality as measured by the competence of students who complete them, and also the extent to which persons who need and can benefit from vocational education are enrolled in such programs, than simply to know how many are placed each year?

But back to Don's paper, he makes a number of specific recommendations which I think are excellent. One in particular is that only a small core of standardized data elements should be collected. C. O. Tower and I developed a core of this kind in one of the Baseline supplemental reports in 1974, "A Data Base for Vocational Education and Manpower Training." Ours contained thirty-nine data elements covering students, programs, expenditures, professional personnel, and finance--each linked with all the others for maximum flexibility and analysis. We would probably have to modify it slightly today, but not much. The concept which Don is advocating is not difficult to implement with automated equipment, and would contain essentially the same data elements no matter who designed it.

My final comment is in response to Don's suggestion that the national vocational education data system should be paid for by the federal government if it is useful enough to justify the cost. I think this is what Congress intended in the 1976 legislation, and also in the NCES authorizing legislation of 1974. I agree with Don, that the federal government should not impose a data collection system on the states and the local education agencies simply for the purpose of determining whether the states and the local education agencies are in compliance with federal policy. Accountability is important, even critical, when it involves public funds. But I also strongly agree with Don that we should have a nationally standardized data system for vocational education to be used for decision making, planning, and program improvement--and not for accountability alone.

JOB SATISFACTION AND PERFORMANCE MEASURES: THE STATE-OF-THE-ART*

The primary purposes of this presentation are to (1) analyze the concepts of job satisfaction and job performance, (2) develop a model of the causes of each, and (3) discuss the possible effects of vocational education on each concept, using these causal models. Along the way, several important issues are discussed which should be taken into account in designing an evaluation process for a vocational education program.

Job Satisfaction

The most common definition of the concept of job satisfaction is as follows:

> The affective orientation toward or emotional reaction to the job (or various components of the job) resulting from the appraisal or evaluation of one's job or job experience (Lawler 1973; Locke 1976).

This definition emphasizes two interrelated points. First, job satisfaction is a feeling or an emotion. As such, it is likely to have a strong impact on the lives of employees. Although job satisfaction is an emotion, it is not without foundation. The second part of the definition suggests that the feeling of satisfaction derives from a (more or less) careful evaluation of one's job--what it has to offer in various ways. Stated in a different way, there is a descriptive part of one's attitude toward the job (What is the job like? What does it offer?) and also an evaluative component (How satisfied are you with what the job offers?).

Job satisfaction can refer to the overall satisfaction with the job as a whole, or to satisfaction with specific components (or facets or elements) of the job, such as pay, promotion opportunities, supervision, and so forth. These components can be fairly general

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* Presentation by Robert S. Billings.

(e.g., the nature of the work itself) or much more specific (e.g., degree of autonomy allowed in deciding what procedures to use when doing a specific task on the job).

A list of the most commonly used components of the job would probably include most of the following, although the list is illustrative and not exhaustive (summarized from Campbell and Pritchard 1976; Lawler 1973; Locke 1976): work itself (intrinsic interest, variety, opportunity for learning, difficulty, amount, chances for success, control or autonomy of pace and methods, responsibility, use of abilities, feeling of achievement, opportunity to stay busy, authority, chance to do things for others, status or prestige); pay (amount, fairness or equity, method of payment, possibility of future raises); promotion (opportunities for promotion, basis of promotion, fairness of promotion, type of promotion offered); recognition (praise from supervisor, co-workers, outsiders); working conditions (house, rest pauses, equipment, temperature, ventilation, humidity, location, physical layout); supervision (overall style, supervisor's influence over others in work place, technical skills, human relations skills, administrative skills, consistency), co-workers (competence, friendliness, helpfulness); company policies (concern for employees, specific policies toward unions, retirement, transfers, reputation of company, job security).

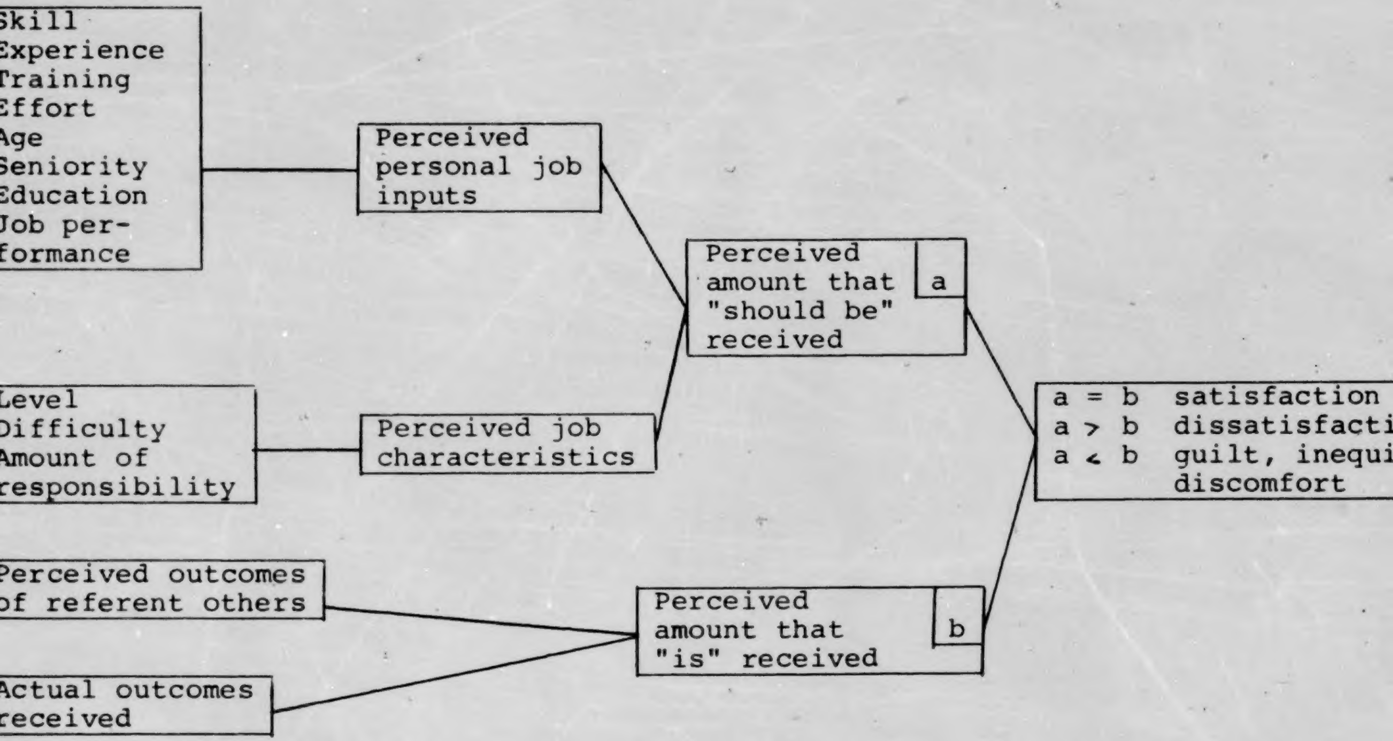
A Model of the Causes of Job Satisfaction

Satisfaction with Job Components. Lawler (1973) has summarized and evaluated the various models of the causes of job satisfaction, concluding with a consolidated model which has gained wide acceptance. A somewhat simplified version of this model is presented in Figure 1 and discussed in some detail below.

Earlier it was suggested that the amount of job satisfaction results from an evaluation of the job. Pursuing this point, there is general agreement that level of satisfaction (overall or with a specific component) is a function of the discrepancy between what the person feels should be and what is seen as existing. Using pay as an example, if an employee feels she/he should be compensated more than she/he sees herself/himself as receiving, then she/he will be dissatisfied with pay. If the "should be" and "is" are in balance, the employee will be satisfied. If the amount received is greater than

Figure 1

Lawler's Model of the Determinants of Satisfaction with Outcomes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b
a = b satisfaction
a > b dissatisfacti
a < b guilt, inequi
discomfort

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adsworth Publishing, 1973.

the employee believes she/he should get, a feeling of "guilt" or "overcompensation" results. (The discrepancy in this direction probably has to be fairly large for a significant feeling of guilt to occur, particularly for an aspect of the work like pay.) This part of a model of job satisfaction is substantiated by the empirical evidence (e.g., Wanous and Lawler 1972).

Although this model is fairly straightforward, it has some interesting implications. For example, two employees may have, objectively, the same opportunity for promotion and yet differ in satisfaction with promotion opportunity. The differences in satisfaction may be due to (1) different perceptions of the opportunity for promotion (the "perceived amount" part of the model), (2) different standards concerning what the chances for promotion "should be," or (3) both of these reasons. This example emphasizes the point that the "should be" and "is" part of the model are perceptions and are not necessarily objective or accurate.

This model of job satisfaction also includes the determinants of the "should be" and "is received" perceptions. One of the determinants of "should be" are perceived personal job inputs. These include all of those things that individuals feel they contribute to the job, such as skill, experience, effort, performance, education, and so forth (see Figure 1). The higher these perceived inputs, the greater the amount of the work outcome of reward individuals feel they should receive. For example, if an employee feels she/he performs better than a co-worker, then perceived inputs are high and the amount of outcomes that should be received is affected.

The model also suggests that perceived job characteristics affect the perceived amount that should be received. The more demanding the job (e.g., the higher the level, the more difficult the work, the more responsibility required), the greater the outcomes (e.g., pay, intrinsic satisfaction, working conditions) that should be received from the job. For example, if an employee is given new, demanding job duties, the employee is likely to feel that the pay should be greater.

The determinants of perceived amount of the outcome that is received are simpler (see Figure 1). Actual outcomes, of course, have the greatest impact on this perception. In addition, however, the amount of the outcome believed to be received by referent others is important. Take as an example two computer programmers, each earning $10,000 a year. If programmer A's co-workers earn $9,000, then she/he will feel her/his perceived amount of pay is relatively high. Programmer B, however, works alongside other programmers who make $11,000. B will perceive her/his current level of pay to be lower. Thus, assuming all other factors in the model to be equal for A and B, programmer A will be more satisfied with pay than B.

Before examining other models of satisfaction and applying the models to vocational education, it should be noted that this model has received a fair amount of empirical support. The findings of many older studies can be reinterpreted in this framework and are generally consistent with the theory. In addition, a recent study by Dyer and Theriault (1976) specifically tested most of their model and found general support.

Overall Job Satisfaction. It is often hypothesized that overall job satisfaction is a result of some combination of satisfaction with the various components of the job. Further, it seems reasonable that the components most important to the individual are somehow weighted more than unimportant components in determining overall satisfaction. For example, an employee who values challenging work more than friendly co-workers will be more satisfied overall if satisfied with the nature of the work and dissatisfied with co-workers than if the opposite were the case.

Many studies have been conducted to test this suggested relationship between component satisfaction, importance of the components, and overall job satisfaction (Quinn and Mangione 1973; see Locke 1976 for a complete summary). The empirical results suggest a more complicated relationship. Evidently, individuals take importance into account when rating component satisfaction; important components are usually rated either very satisfying or very dissatisfying, while unimportant components are rated as more neutral. Thus, a separate rating of component importance is redundant with the component satisfaction rating. This means that a simple sum of component satisfaction ratings is the best predictor of overall job satisfaction. However, note that since important components are rated in a more extreme manner, the variability in the sum of the component satisfaction is mostly a product of the ratings of the important components. Thus, the importance of a component is valuable information and does have an impact on overall satisfaction, albeit indirect.

Regardless of the precise manner in which component satisfaction is combined to result in overall satisfaction, this way of viewing overall job satisfaction suggests that Lawler's model of component satisfaction also explains the causes of overall satisfaction. That is, the employee (1) judges for each component of the job, the amount that should be and (2) the amount that is received, (3) feels satisfied or dissatisfied as a result, and (4) combines all of the evaluations across components to determine overall satisfaction.

However, there are two other ways to think of the determinants of overall job satisfaction; the person/environment fit model and the met expectations model. The person/environment model states that a person will be satisfied with the job situation if it fits his/her values, skills, needs, abilities, goals, and so forth (Dawis, Lofquist, and Weiss 1968; Seybolt 1976). Dissatisfaction results from a poor fit in either direction. For example, if a job is either more or less challenging than the individual desires, then satisfaction will be low.

While the job/person fit model does not necessarily conflict with Lawler's model, it does produce a somewhat different focus. Occupational and job choice become important considerations, and, as explored in detail below, vocational education can be predicted to increase satisfaction if it increases the job/person fit.

The second model of the determinants of overall job satisfaction focuses on met expectations (Porter and Steers 1975; Wanous 1977). The prospective employee has a set of expectations about what the job should offer. If expectations are not met, then dissatisfaction and, eventually, turnover results. This model is not as useful as Lawler's because the cause of expectations are not explored. However, the expectations model does lead us to consider vocational education as a form of realistic job preview, an idea examined below.

Possible Effects of Vocational Education on Job Satisfaction

Using the three models of satisfaction (Lawler's component model, job/person fit, and met expectations), the effects of vocational education on job satisfaction can be analyzed. The discussion of possible effects is organized around a number of hypotheses, assertions, conclusions, and speculations.

1. Vocational education may lead to better jobs for graduates, better job outcomes, and higher satisfaction.

As an example, a good program in auto repair may allow a graduate to get a job as a mechanic instead of a job pumping gas. Comparatively, the mechanic job would probably offer better pay, more challenge, more autonomy, better advancement opportunities, more status, and perhaps even better relations with the supervisor and co-workers. If all of this happens, then higher job satisfaction would be predicted.

This argument rests on an important assumption--that "better jobs" are available and are more likely to be obtained following good vocational education, as compared to poor training or none at all. If no mechanics jobs are available or if the chances of getting such jobs are not improved by vocational education, then this hypothesis will not be born out. An implication is that increased job satisfaction may depend just as much on the job and labor markets as in the quality of vocational education. Further, the likelihood of getting a good job may not depend much on the quality of vocational education, at least in the short run. Potential employers cannot directly judge the quality of training and so must rely on word of mouth, previous experience with other vocational programs, and experience with graduates from the program. In other words, the image of vocational education may be as important as the program itself in getting graduates better, more satisfying jobs.

2. Better vocational education may lead to a better fit between the person and the job.

This hypothesis may be viewed as a corollary of the first hypothesis; if vocational education leads to increased job possibilities, then presumably students can select the job which best fits their needs, abilities, motivations, and so forth. However, there is an additional point here. Good vocational training may provide a realistic preview of the job or occupation, allowing students to decide if that occupation fits their needs before taking the job. For example, the nursing aide student may discover that job does not interest her/him as much as she/he thought it would after finding out, during training, what the job duties will be. An interesting implication of this point is that, in some cases, it may be a good outcome if an individual does not go into the occupation intended; if the fit between the individual and the job is not going to be good, it may be best to learn this during training and not after job placement.

The job/person fit model also emphasizes the place of career counseling and job placement as an integral part of vocational education. Thus, a thorough evaluation of the effects of vocational education on job satisfaction would include a close look at the current and former students' perceptions and evaluation of counseling and placement. In addition, the impact of expectations should be assessed; for example, the perceived characteristics of the target job could be compared for vocational education and nonvocational education students. If the realistic job preview mechanism is occurring, vocational education students will more correctly perceive the characteristics of the job (as seen by current employers) than nonvocational education students.

3. Vocational education may decrease job satisfaction by increasing perceived inputs and not affecting perceived outcomes.

This hypothesis follows from Lawler's model of component satisfaction. In general, we can predict that good vocational education will increase perceived job inputs, such as skills, training, education, experience, and perhaps job effort and performance. If perceived job inputs are higher, then the vocational education graduate will feel that she/he should be receiving more and better work outcomes, such as better pay, more promotion opportunities, more intrinsically interesting job assignments, more autonomy and better working conditions. In other words, vocational education may increase the level of aspiration for most, if not all, work outcomes. The paradoxical conclusion is that better training may lead to lower satisfaction--if the heightened aspirations or "should be" are not matched by the perceived level of outcomes.

A further implication is that this "aspiration level" effect should be explored when evaluating vocational education. One simple way to do this is to ask if graduates feel that vocational education should mean more and better work outcomes. If so, exactly what should be better? (e.g., pay, promotion opportunities, autonomy). Finally, did this occur with you; did you feel like you got better pay, etc., because you were a vocational education graduate? An analysis of these types of perceptions would help explain a lack of effect or a negative effect of vocational education on job satisfaction.

4. The effects of vocational education on job satisfaction may be small, due to the many causes of satisfaction.

Referring again to Lawler's model, there are many variables that affect perceived amount that should be and is received. Although vocational education may affect some job inputs and may indirectly affect some outcomes through job placement, there are a number of other variables which would also affect these determinants of job satisfaction. In fact, the predictions made thus far apply only if all other factors are held constant; to the extent that this is not the case and innate abilities, age, effort, job characteristics, own and referent other's outcomes will vary and make the effects of vocational education on job satisfaction small and difficult to show empirically.

Although there does not seem to be any empirical evidence on the relationship between vocational education and job satisfaction, Quinn and de Mandilovitch (1977) reviewed the literature and found no consistent relationship between number of years of education and job satisfaction (except for those with a college degree versus no degree). Their conclusion that education provides a "questionable pay off" in terms of job satisfaction may or may not extend to vocational education. However, it does suggest that the hypothesis of no discernable effects of vocational education on job satisfaction should be taken seriously.

There is another reason for predicting a small effect of vocational education on overall job satisfaction. If overall satisfaction is the sum of satisfaction with various components of the job and even if vocational education affects satisfaction with some aspects of the job, other components may be unaffected. For example, satisfaction with the use of valued skills may be increased, while satisfaction with supervision may not be affected. This pattern would dilute the impact on overall satisfaction. In addition, vocational education may increase the satisfaction with some components, have no effects on others, and decrease satisfaction with yet other components, due to the increased aspiration mechanism discussed above. To the extent that these effects may occur in a different fashion for different individuals, the overall effects of vocational education on a sample of employees may be very complex and difficult to identify.

On the positive side, the models discussed above do suggest important variables to control, and when possible to use, to tease out subtle effects. For example, if a large enough sample is available, actual outcomes like pay should be held constant. Likewise, examining the job satisfaction of vocational versus nonvocational education graduates with the same job characteristics will reduce error variance and make it more likely that the true effects will be found.

In summary, the effects of vocational education on job satisfaction are likely to be complex. The vocational education administrator is encouraged to determine--in advance of any data collection--why the program being evaluated should increase job satisfaction, using the points made here as stimuli for thought. The causal mechanisms which are believed to be occurring (e.g., better job placement, increased aspiration levels, more realistic expectations) all imply that more information should be gathered than when measuring satisfaction with various components of the job. (Questionnaire items may have to be created, although the citations given above will provide some help.) While this type of analytic/ diagnostic approach is more difficult than simply sending out standard job satisfaction measures, the information to be gained is even greater.

Additional Job Attitudes: Intrinsic Motivation, Job Involvement, and Beliefs About Work

Job satisfaction is not the only job attitude which is important or for which instruments have been developed. Further, it may be that satisfaction is less important, in some ways, than other attitudes and also that it is less likely to be affected by vocational education. Several of these attitudes are briefly discussed below. Although instruments to measure these attitudes are not included in this handbook, the instruments are available in the published literature and the citations are given below.

Intrinsic Motivation

While this term is used in many different ways, the best definition is that given by Lawler (1969; Lawler and Hall 1970):

> The degree to which a job holder is motivated to perform well because of some subjective rewards or feeling that he expects to receive or experience as a result of performing well.

Thus, an intrinsically motivated individual does a good job not because of extrinsic rewards (e.g., pay, promotion, praise), but because of feelings of accomplishment, self-esteem, pride in work, and so forth.

Intrinsic motivation is clearly important for high productivity and quality work, and has been shown to be related to the health and well-being of the employee. Furthermore, it would seem to be an important goal of vocational education to produce graduates who will take pride in their work and feel a sense of accomplishment if they do a good job.

Intrinsic motivation has been shown to be different from job involvement, both conceptually and empirically (Lawler and Hall 1970). Instruments to measure intrinsic motivation (sometimes called internal motivation) have been developed and used successfully in a large number of studies (see Lawler and Hall 1970; Hackman and Oldham 1975, 1976).

Job Involvement

Although this concept has been around for many years, there is not complete agreement on what it is. A very recent review of the concept (Rabinowitz and Hall 1977) suggests that the following may be the most useful way to define job involvement:

> Psychological identification with one's work; the degree to which the job situation is central to the person and his identity.

Although some theorists believe job involvement to be a matter of individual differences (produced by early socialization and relatively fixed), the more realistic view is that job involvement is a product of the interaction between the individual and the job setting (Rabinowitz and Hall 1977). As such, job involvement may also be seen as a desirable and reasonable product of vocational education because of the "professionalism" implied by the definition that "the more one is involved, psychologically, in one's work, the higher the standards, the greater the concern, the more internalized the values of the occupation, and so forth." Vocational education might encourage job involvement by showing that an occupation is important, has an impact on the lives of others and society in general, demands skills, and, in general, is worth identifying with.

Although there is no one standard measure of job involvement, several validated instruments exist. These are described and critiqued by Rabinowitz and Hall (1977). Citations for the instruments themselves are available in that article.

Beliefs About Work in General

An important result of vocational education may be a change in underlying beliefs about work in general and the part it should play in our lives. Very recently, Bucholz (1978) has reviewed the literature on beliefs about work and identified five different belief systems:

1. The work ethic. Work is good and bestows dignity; hard work leads to success.
2. The organizational belief system. Work takes on meaning only as it affects the organization and one's status within the organization; success comes from conforming to group norms.
3. The humanistic belief system. Work is how people fulfill themselves; jobs should be redesigned to satisfy higher-order needs.
4. Marxist-related beliefs. Work is necessary for fulfillment, but the capitalistic system does not allow this, because workers have no control.
5. The leisure ethic. Work is necessary, but can never be fulfilling; because fulfillment comes from leisure activities, work should require less time than it does.

Which belief system should result from vocational education is a very value-laden judgment. However, it is likely that most administrators would identify the work ethic and perhaps the humanistic belief system as goals. In any event, Bucholz has created and validated an instrument measuring each belief system, so it would be possible to evaluate the effects of a program on these core beliefs about work.

Job Performance

The Dimensions of Job Performance

If anything, job performance is even more complex than job satisfaction; it is not really one concept, but a whole cluster of dimensions. When job performance is measured, it is usually assessed along some number of dimensions, which often include such things as the following: quality, quantity, skills, technical knowledge, ability to work without supervision, attendance, punctuality, cooperation, communication skills, problem solving skills, teamwork, interpersonal skills, safety, good attitudes, and initiative. The list could go on forever.

There is no one correct list of job performance dimensions for all jobs. The ideal approach is to do a complete job analysis for a specific job and derive an instrument for that job. At the other extreme, a small set of very general dimensions could be applied to any and all jobs. A manageable middle ground is to select an instrument specifically developed for the job being assessed or a similar job. Another approach is to select an instrument which contains dimensions believed to be meaningful, as judged by someone familiar with the job. Using the large number of instruments collected in this handbook, the latter approach seems quite feasible.

In the discussion that follows, job performance is discussed as a general concept, without reference to the many dimensions of performance. However, it will become clear that many of the commonly used dimensions of "performance" are actually measures of either motivation, skills, or role concept, which are factors that lead to a given level of performance.

A Model of Job Performance

Job performance is generally thought of as determined by three basic variables: motivation or effort, skill level, and role conception. Effort (how hard the employee works) and skill level (whether or not the employee has the skills to do the job) are self-explanatory. Role conception refers to the employee's idea about what should be done on the job--how the role should be played. If an employee has an incorrect notion of how the job should be done or what activities constitute high performance, then actual performance will be low; even though the employee may have the abilities and be working hard, performance suffers if effort is put into the wrong activities.

These three determinants of job performance are thought to combine multiplicatively in affecting performance. That is, if one variable is very low, then performance will be low. Total lack of job skills means low performance, no matter how much effort is put into the work. If the motivation is lacking, then performance will be low, no matter what the skill level or role concept. In order to analyze the possible effects of vocational education on job performance, we must determine which of these three factors might be altered by vocational training.

Motivation and Vocational Education

There are too many theories of work motivation to summarize all of them here. However, there are two major approaches to motivation that dominate current thinking and provide a basic framework for analysis.

Expectancy Theory. The dominant theory of work motivation currently is expectancy theory (see Campbell and Pritchard 1976, for a comprehensive review). In simple terms, expectancy theory states that an employee is motivated to perform if effort is seen as leading to performance, if performance is seen as leading to work outcomes, and if those outcomes are desired by the individual. Work outcomes may include extrinsic outcomes (e.g., pay, promotion, relations with co-workers, working conditions) or intrinsic outcomes (e.g., autonomy, feeling of accomplishment, pride in work, enjoyment of the work itself).

Thus, vocational education could increase motivation by affecting any or all of these three expectancy theory components. First, the perception that effort leads to performance might be affected; as students learn how to do the work and become more confident, then they will begin to see that high performance can be attained if the effort is given by them. The perceived relationship between performance and work outcomes seems less amenable to shaping by vocational education. This perception is affected primarily by the reward system in the organization itself; some organizations reward performance and others do not. The final variable, the value placed on work outcomes, might be affected by vocational education, for some outcomes. The value of intrinsic outcomes (e.g., autonomy, pride in work, feeling of accomplishment) seems more likely to be affected than the value of extrinsic outcomes (e.g., pay, praise). In summary, expectancy theory might predict a slight effect of vocational education on intrinsic motivation to perform, if it increased the perception that effort leads to performance and the value of intrinsic work outcomes.

Goal Setting. A slightly different approach to motivation has been advocated by Locke (1968). He suggests that performance is determined by the goals a person sets for himself/herself. Further, the more specific and the more challenging the goal, the higher the level of performance. Finally, the individual must fully accept the goal before it will affect performance.

Using this approach, vocational education may increase motivation and performance by altering the performance goals of the individual. More specific goals may be acquired during training, as the student is taught exactly what doing a good job entails. More challenging goals may emerge as job skills increase and aspiration levels increase. Goals will be accepted more completely as the student understands the reasons behind performance goals and identifies with the occupation.

In summary, vocational education might increase motivation and consequently job performance by (1) increasing the perceived probability that effort leads to performance, (2) increasing the value placed on intrinsic rewards, and (3) increasing the performance goals set by the individual. Unfortunately, many other variables also affect motivation, such as job characteristics, supervisory style, organizational reward systems, value placed on extrinsic rewards, and work group performance norms. Since these are largely unaffected by vocational education, the overall effect of even high quality vocational education on work motivation may be a moderate one.

Skills and Vocational Education

The second variable affecting job performance is the skill level of the individual. Vocational education is generally thought to have an impact on job performance primarily by affecting this variable. Although this may be true, the situation becomes more complex when analyzed closely.

Lawler (1973) has suggested that job skills result from underlying aptitudes, training, and direct job experience. Because aptitudes are generally considered to be essentially stable characteristics, vocational education would not be expected to affect job skills through aptitudes. Likewise, experience on the job affects skills apart from the quality of vocational education. Even within the remaining "training" category, vocational education is only part of the story. Important skills are certainly affected by the quality of non-vocational education, hobbies, extracurricular activities, and other nonschool experience. All of this is to say that even though vocational education may affect job skills, it is only one of many factors that affect such skills. Therefore, the effects of vocational education on job performance through job skills may be modest and difficult to find.

Role Conception and Vocational Education

This is the least studied and least discussed of the three causes of job performance. Yet it is significantly different than the other factors and probably has a large impact on job performance in many situations. It is not a matter of being motivated to perform well or of having the necessary skills; rather, the idea about what the job entails differs from the correct model or the one advocated by the organization. For example, the job performance of an insurance agent may be rated low if he feels that her/his job is to service existing clients and not to develop new customers.

Vocational education may have an impact on this cause of job performance; part of good training may be learning what the occupation entails--which facets are most important and which of lesser priority. If this effect of vocational education occurs, it is likely to be most noticeable for new employees. Assuming that most untrained employees only learn the proper role concept over time as they gain direct job experience, the graduate of vocational education should be more able to step into the job and know what tasks should be done with minimal direction.

Overall Conclusions

1. There are many causes of job performance.

This seemingly obvious point must not be forgotten, for it implies that the effects of even very good vocational education will be difficult to discern because of "error variance." If all the extraneous factors could be controlled (e.g., individual motives, job characteristics, organizational reward systems, underlying aptitudes, job experience, other training), then the effects of vocational education could be easily and unambiguously determined. In any real life study, these uncontrolled factors may create so much "noise" that no effects can be seen.

Several suggestions can be offered. The use of large numbers of subjects can help to tease out subtle effects. Whenever possible, the factor suggested by the model presented here should be measured and controlled for. For example, comparing vocational education graduates against nonvocational education graduates within the same job classification, organization, and length of service would help control many factors.

2. There are several ways in which vocational education may affect job performance.

On a brighter note, this analysis has suggested several possible mechanisms through which vocational education could affect job performance: increased motivation, better job skills, and knowing what the role entails. Whether or not these things do occur is, of course, an empirical question. However, recognizing the possible causal mechanisms has two important implications.

The program itself should be analyzed for existing effects and possible improvements in the motivational, ability, and role concept domains. The first step is to examine the goals and conduct of the program. Specific job skills are certainly a central focus, but is it also the intent to increase motivation and knowledge of the role? If so, the discussion above provides some specific guidelines for analysis (e.g., is self-confidence or perceived effort to performance relations enhanced, are high performance standards encouraged, is the importance of the occupation emphasized, is autonomy encouraged?).

A comprehensive, useful evaluation of job performance of vocational education graduates will not be limited to measuring overall performance; items should deal with motivation, ability, and role concept. Whatever the findings for overall job performance, the administrator will need to know why there was or was not an effect on performance. Further, the implications for the content and conduct of the program can only be known if more specific items are included. Imagine that a program is evaluated by measuring the job performance of recent graduates and that they are found to be performing no better than similar employees without vocational training.

What should be done? A likely response would be to try to add to or update the content of the program--that is, try to increase job skills. However, the problem could be low motivation of graduates (e.g., the teacher lowered student's self-esteem and perception that effort will lead to performance by constantly criticizing) or role concept (e.g., the teacher has an idea of how the job should be done that differs completely from that of the eventual employer). In other words, evaluation of only the overall job performance of graduates may actually be worse than no evaluation at all; without more specific information on motivation, skills, and role concept, the wrong problem could be solved.

In conclusion, the cluster of concepts known as job performance are complex. However, by (1) measuring dimensions of performance which are important for a given job and (2) measuring the causes of performance--motivation, skills, and role concept--a useful and understandable evaluation can be performed.

The Research Design: How to Assess the Effects of Vocational Education

Along with selecting instruments to assess job satisfaction and performance, the vocational education administrator must decide upon a research design to evaluate the effects of the program. While there are too many issues to deal with here, a few suggestions can be offered.

The Ideal

The perfect design would involve conducting a true experiment. Students would be randomly assigned to vocational versus nonvocational education and then put in identical jobs in the same organization. Any differences between the two groups on satisfaction or performance would clearly be caused by the different educational programs. Although this research is impossible to carry out, it does highlight the possible extraneous differences between a vocational education sample and any comparison group.

The Alternatives

Compare with co-workers. The job satisfaction and performance of a group of vocational education graduates could be compared to that of their co-workers in similar jobs in the same organization. This would entail selecting (or having the employer select) one nonvocational education graduate for each vocational education graduate in the sample. This approach would begin to control for the effects of job and organizational characteristics, but individual characteristics (values, innate abilities, age, experience, etc.) would not be controlled for, due to nonrandom assignment to groups. Even with these problems, it is the best of the feasible research designs.

Compare with nonvocational education contemporaries. Another comparison group could be school-mates who did not select vocational education. This might control for some individual characteristics (e.g., age, years on the job, socioeconomic status, certain values), but would not deal with the very important factors of job and organizational characteristics. In addition, there may be important differences between the two groups which caused their choice of educational programs. The advantage of this design is that it might be easy to carry out, and it may provide some useful information if combined with the first design described.

Compare with "norms" published with the instrument. A few of the standardized measures in this handbook provide data from large groups of employees in different job classifications or demographic categories (e.g., Job Descriptive Index, Minnesota Satisfaction Questionnaire). Although these norms are often several years old and may not match the characteristics of the sample being studied, such a comparison is inexpensive and provides some useful information.

A final suggestion. When a perfect research design is not available, the best approach is to combine as many limited designs as possible. Therefore, if possible, all of the designs discussed above should be used. Because each has different strengths and weaknesses, a combined strategy will lead to results that can be accepted with some confidence.

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REACTION TO JOB SATISFACTION AND PERFORMANCE MEASURES: THE STATE OF THE ART*

I must admit to this audience that my initial reaction to this paper was one of frustration. It bothered me that the writer did not expand on the excellent framework set down. I felt that he should have taken time to run it by someone representing a large urban area. By doing this, the writer could have gained some rather specific examples to back up the points raised in the paper.

After several more reviews and note taking on my part, I realized several things. First, that the National Center for Research in Vocational Education established a series of guides that pretty well set the pattern for the presenters. Second, to deal specifically with the large urban areas would, in turn, leave out about 40 percent of the vocational education population. Third, that the subject matter is as large as the number of titles found in the Dictionary of Occupational Titles and the people that fill those positions. Fourth, although it is my understanding that the various state departments of education will establish the procedures for determining job satisfaction and performance, it would be most helpful for vocational staff to be able to have a more viable comprehension of the subject matter.

In reviewing the paper "Job Satisfaction and Performance Measures: The State of the Art" by Robert S. Billings, one must consider the possibility that the vocational education system is, in part, a servant of the business-industrial-labor complex and, in part, a servant of the individuals enrolled in the programs. Regardless the intent of Congress, the will of the state or local boards of education, or the dedication of the delivery system staff, the final results of the evaluation process rest upon the new entrant to the work force and his/her employer.

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* Reaction by Donald Healas to Robert Billings' presentation.

The dynamics involved in being able to provide a reasonable response mechanism between two strong independent entities, the student/graduate and the employer, is awesome. In one field, you have a graduate/student who: may or may not elect to go to work; in an occupation that may or may not be related to his/her vocational program; may opt for a single-skilled occupation versus a multi-skilled occupation; or select a lower paid position versus a higher paid position.

In the other field, one finds employers who: may find it easier to import skilled individuals versus employing and preparing a new group of individuals; may not be hiring because of the economics of the area; may be concentrating on meeting federal mandates for new hires; may be involved in an upgrading program for present employees; or because of negotiated contracts, have to select workers for skilled occupations from a general labor force within the company.

The paper attempts to provide a set of related statements and questions impacting on a critical segment of interpreting outcome measures for vocational education. In addition to responding to an extremely demanding subject, the writer had to be aware of his target audience. The makeup of this audience has probably caused more than its share of concern for all of us who know it and are involved in providing responses for the present and future reporting systems.

The chapter has been developed with a great deal of insight and brings to the attention of the reader a series of management concepts relating to job satisfaction and performance. It is general enough to cover the salient points for the possible users with some experience in the field of vocational education. However, to those without the experience and/or awareness of the dynamics at work, the paper may present a rather well-documented series of possible prescriptive statements without reader consideration for the variables highlighted by the writer. The paper, divided into four sections, places major emphasis on job satisfaction, somewhat less emphasis on job performance, and only a cursory look at additional job attitudes and the research design. Although the writer touched very briefly on student/graduate self-concept by implication, it would seem to warrant either a section by itself or to be made more visible in the two major sections.

In the first section, job satisfaction, the writer zeros in on Lawler's work, summarizing and evaluating the various models of the causes of job satisfaction. He has also cited other national works and findings which support the projections and questions raised for vocational educators on the possible effects on job satisfaction.

In addition to Lawler's component, satisfaction, the reader is introduced to the job/person fit and the met expectations, models of job satisfaction. The writer then proceeds to investigate the potentials of various components using four questions relating to vocational education.

The job performance section covers the general dimensions of performance measurements while pointing out the depth of difficulties to be found in an ideal system versus a pragmatic approach. The variables of performance may be classified under either motivation, skills, and/or role concept according to the information contained in the chapter. The expectancy theory and goal setting are reviewed under the motivation heading. Role concept has also been explained in some detail. The writer points out that it is the analysis of data received that provides for the improvement of the delivery system.

The two remaining sections, additional job attitudes and the research design, have not really been fleshed out. The first of these covers a brief summary of intrinsic motivation, job involvement, and beliefs about work in general, all of which are helpful and could have added to the whole. The second part provides an overview of possible designs from the ideal to alternatives and proposes the best combination of the alternatives.

The evaluation of job satisfaction and performance is, at best, a complex maze. The variables are as numerous, at least, as the number of individuals involved. While job satisfaction and the related attitudes may be reviewed through instruments utilized by the students/graduates, it would appear to be a most difficult task to complete a job performance evaluation and match it to the satisfaction responses, if indeed that is required.

SUMMARY

1. The material contained in this chapter is important to those involved in the collection, interpretation, and dissemination of job satisfaction and performance data.

2. The action-oriented users will need to brush up on management concepts and add the local inputs, variables, and components as required.

3. What provisions can be made for the student/graduate who selects an occupation that requires a general labor force entry and then seniority for bidding up to skilled work?

4. What provisions can be made for the students/graduates who completed a vocational program and

   a. changed their occupational objectives?

   b. elected not to go to work?

   c. elected to take a "low" paying job?

   d. elected to take a single-skilled job rather than a multi-skilled job?

5. How can we determine the student's priority factor in selecting his/her job?

6. Are students/graduates entering the work force for the first time able to make the required responses in a logical manner to a rather sophisticated questionnaire?

7. Have the studies cited in the paper included the student/graduate entering the work force for the first time?

8. How will the Occupational Work Experience and/or the Diversified Cooperative Health program student be counted in the related training category? Both are found in clusters of occupations, not single occupations.

9. What percentage of all returns will be acceptable?

It would seem that a universal system of evaluation for a not-so-universal vocational delivery system is a mathematical jigsaw of staggering proportions.

CRITERIA AGAINST WHICH VOCATIONAL EDUCATION SHOULD BE HELD ACCOUNTABLE*

The long recognized success of American education has caused most educators and citizens to rely on accountability criteria with which they are familiar, even though the future which the learner must face today is far different than it was in the past. It is also true that the skills, knowledge and experience needed in the work world of tomorrow require more and different competencies than were adequate in the past.

Recent studies by the National Academy of Sciences titled Assessing Vocational Education Research and Development[1]; by Project Baseline at Northern Arizona University titled Report to the Nation on Vocational Education 1975[2]; by the Panel on Youth of the President's Science Advisory Committee called Youth: Transition to Adulthood[3]; by the National Manpower Institute of Washington, D. C.; in a book called The Boundless Resource: A Prospectus for an Education/Work Policy[4] and others related to the problems, issues and priorities of preparing individuals for a future work life all indicate the need for new criteria against which to evaluate education of all kinds and especially vocational education.

Traditionally, criteria for accountability in regard to the preparation of youth for the future, including the work role, have been determined over a long period of time based on experience, wisdom and judgment of the society power structure. This method has worked well, primarily because the future was like the past and an understanding of the past was the best way to determine what the future would require. The problem of "what to measure" was relatively simple as compared to today.

It was even more likely that the criteria of accountability for vocational education was relatively simple with work and jobs remaining the same over generations and for most people being primarily manual. The same could be said for nearly all of education in terms of being static. Thus, the measurement of success in meeting these rather simple and static criteria became the isolated effort of a few professionals and a few dollars and was not part of the main concern of education, nor considered highly significant by most educators, citizens, or policy makers. The amount of money spent and past efforts indicate the degree to which the selection of criteria against which vocational education was to be held accountable was not a significant evaluation priority.

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* Presentation by Grant Venn.

Thus, a concern for methodology for measurement became more significant than the selection of criteria against which to measure. Without even implying any criticism, it is fair to say that those in the field of research and evaluation found themselves forced to deal with short term, small parts of the education process rather than broad policy, direction or criteria setting, or even the broad question of accountability criteria.

The long and continued isolation of education from the rest of society's daily pressures and conflicts, especially the education-work relationship, forced the practitioner to select criteria for success in vocational education (placement in a training related job) that was not of a great concern to the rest of education and specifically not to specialists in the field of educational research and evaluation.

Very little vocational education research, development or evaluation exists outside the overall educational research and development effort in the country. The history of research and development efforts at the federal level in the United States Office of Education illustrates the point. Today, direct work and job related efforts are probably more clearly identified with the Department of Labor than with the Office of Education. Even the most recent reorganization of the National Institute for Education (NIE) points again to the fact that for whatever reason the relationship between educational research, evaluation and measurement and success criteria in vocational education has been tenuous at best and is still insignificant in research area priorities, which is suggested by the NIE reorganization.

It is also true that the dominance of physical science research methodology, where variables can be controlled and outcomes today are as they were 1000 years ago, often causes educational research to keep searching for the "right way." There is a "mystique" that "good," "solid," and "respectable" efforts presently in use will eventually triumph and that the "right criteria" against which vocational education should be held accountable are similar to past criteria. The problem is seen as a need to simply gather the right data, analyze it properly, and draw conclusions which will obviously result from such evaluation. It is also likely that many practictioners feel that all the fuss about accountability and the new legislation compliance requirements are figments of somebody's imagination and in no way related to the real world. This does not imply that whatever evaluation is done can be done without sound processes.

However, it may be that the search for evaluative criteria that are nonchangeable may become the search that is unending and could lead to the cul-de-sac that methodology has often entered: if we can't measure it, it isn't significant!

While there can be no certainty that any criterion chosen can stand the test of time, it seems certain that present criteria are inadequate, often conflicting and not clearly defined at any level, federal, state or local. The criteria that are often used by evaluators are sometimes part of the resistance to creating new organization, policies, and objectives that could help make vocational education more viable, flexible, and relevant for the learner, the taxpayer and the employer. The reason for this statement is the fact that as the criteria for accountability change it will be difficult, if not impossible, to find the most valid and reliable methods of measuring success--thus, it becomes important to not change the criteria from the standpoint of the evaluator. The recent and continuing national reaction to failing SAT scores indicates the problem. Even though the criteria were chosen to predict success in college, and were predicting successfully, many persons argued that the high schools must go back to their one purpose--preparing youth to enter college. Multiple criteria and changing criteria make the job of evaluating success difficult to do and difficult to explain.

Even more troublesome are multiple processes by which vocational education criteria are established. These processes are even more complex than those in the rest of education, for the following reasons:

1. Specific outcome measures and operational criteria are set by federal law and regulation. This may be the reason why vocational administrators feel their most important and time consuming tasks are their efforts to comply with federal and state regulations.[5]

2. Employees that hire directly from the vocationally educated student body have specific and definitive criteria defined by occupation and by job.

3. The economic and social needs of the nation may be more directly or immediately affected by the success or failure of vocational education both in terms of meeting manpower demands and reducing unemployment and emergency expenditures than by most other education programs in the schools.

4. The different methods and equipment used in vocational education are often irritants, if not direct threats to the rest of the educational establishment, at all levels, and thus criteria for success in vocational education often get changed to reduce these conflicts rather than defined more directly to measure vocational success.

5. Those directly responsible for vocational education policy and objectives are often not familiar with either vocational education or the needs or problems of the work world and thus tend to support their own concepts of quality.

6. The historical separation and development of work and education has created a chasm which, even today, is seldom bridged when most people think of either education or work.

These few examples are given to point up the inherent and difficult problem of establishing criteria against which vocational education should be held accountable that will be acceptable to the educator, the employer, the legislator, the vocational educator and, perhaps most important of all, to the researcher and evaluator.

Allow me, for purposes of this paper, to redesign Glaser's "Ten Untenable Assumptions of College Instruction,"[6] to fit the teacher in vocational education whose criteria are set by everyone, constantly changing, and now measured against a single factor over which he/she has no control, the job market.

Often the vocational teacher is forced to act as if the assumptions listed below were true.

1. The specific job knowledge to be learned by the student will relate to the student's future work and career plans even though the career plans of the student aren't known.

2. All students in each course come with equal aptitudes, learnings and experience.

3. Aptitude is more important than previous achievement and motivation for the attainment of skills and knowledge.

4. All people learn in the same way and take the same time to learn the same amount of the same thing.

5. Listening to lectures, reading materials and learning rules are powerful means for changing learner behavior.

6. Students retain knowledge and skills without much review or use.

7. Grades tell what a student has learned and can do.

8. The vocational teacher is, by virtue of a teacher's authority, able to teach the right things well and knows what _should be taught_.

9. Vocational education instruction is enough to teach a student how to make the transition to work and responsibility.

10. The organization and structure of vocational education as it complies with federal and state regulations is the best system for transmitting knowledge and skills to students at the local level.

Each of us would quickly realize that not all vocational education instructors believe the assumptions, yet the environment in which most vocational education is carried on and the educational system structure, organization, money and priorities all tend to force compliance with traditional educational success criteria and evaluation methods, even though a look at the future relationships between education and work would suggest some new criteria against which vocational education should be held accountable.

One thing seems certain--setting criteria for accountability and then measuring outcomes are not consolidated efforts in vocational education. At the present time, the federal government, through legislation, regulations, and categorical funding; the state through administrative program plans and fund allocation; and the local units by interest, compliance or nonconcern, create the variety of criteria which the individual school and teacher must meet and upon which they are judged. Yet these all fade into the background as the individual student, parent, teacher or employer comes face to face with the question, "Is this person able to be successful today and in the future in his/her private, public, and work life?" This concept of accountability may be a more significant basis for attempting to determine a new approach to setting criteria because it is truly the basis upon which each person judges the worth of a social organization, an educational institution, appropriation, or specific program. What is so significant is that change has become so pervasive, especially in the area of work and employment, that it is fair to say that everyone must be educated in order to work or society will be forced to care for them. What may be even worse in our culture is that those who do not work have neither worth nor dignity.

Thus, criteria against which vocational education must be held accountable in the short and the long run must come from the individuals in the society into which the student must pass and to whom the student must demonstrate that he/she has learned and can learn and that what he/she has learned he/she can apply as judged by others than those in vocational education, education, or evaluation.

Both process and product evaluation will be made regarding vocational education by the public, since each person has had experience in education. If this experience has been successful, as it has for most "power structure people," both within and outside of education, the degree to which criteria will be "right," as seen by these people, will relate to their successful experience in education. However, today, youth unemployment and isolation; lack of career goals; falling SAT scores; and growing welfare, education and crime costs all contribute to people's fears regarding the quality of education and the quality of vocational education.

In searching for new accountability criteria that relate to individual development, societal needs and future change, one must consider some of the questions that need to be asked in setting priorities for new efforts in evaluating.

1. What are some different things that need to be done as contrasted to the constant question of how to do better what we are already doing?

2. How can we be more concerned with change rather than right answers when we know that much knowledge and skill has a short life in a technological, changing work force?

3. How do we come to value creativity in the development of new methods, organization, and purposes over compliance in vocational education?

4. How do we find criteria against which to evaluate vocational education that are more useful than the traditional criteria of preparation for placement in a job related to training?

5. Can vocational education demonstrate new ways to learn to all of education rather than mimic other education?

6. Do vocational educators owe first allegiance to the consumer rather than the profession, in the area of accountability?

There are many other questions that could be raised but the sense of the proposition is that changes in our society have become so great, especially as it relates to education and work, that new approaches are more important than merely improving or creating minor changes in a system based on the past rather than the future.

Perhaps a brief listing of a few of these changes that support the premise that a major new look at criteria for accountability is more important than simple improvement of criteria measurement or minor additions to the list of criteria would prove helpful.

Fundamental Societal Changes that Demand New Accountability Criteria

Changes in the Nature of Work

Much of what was needed to be a mature working adult regardless of talents, interest or work opportunities was learned through experience in the home, neighborhood or work place; most youth no longer have this opportunity.

Changes in Criteria for Successful Adulthood

The fading work ethic, mobility in the work place, changes in family structure and role all imply new ways to prepare for adulthood as part of education.

Changes in the Nature of Education and Schooling

One may need to become more a learner through the education process than to become a "learned" person. To complete an education is more myth than reality.

More Complex Passages and Transitions in Private, Public and Work Life

To prepare for a vocation with the expectation that the knowledge and skills will be good for life is no more realistic than to expect that one is likely to live in the same place or in the same manner all one's life. The transitions in adult life will require different education than did a stable unchanging past, especially in one's work life.

The Future as Different from Today

The most challenging societal change for which vocational education must help prepare the individual is the fact that we cannot tell exactly what the future will require. What accountability criteria are necessary that will predict success when no one can predict what will be needed? This has occurred more often in the work area than any other.

Broad Categories of Evaluation Criteria

In attempting to suggest new criteria for evaluating vocational education, one must recognize that there are new fundamental, social, and individual needs that can best be met by establishing new objectives or criteria against which vocational education should be held accountable. The question of how to measure or the methods of evaluation should not be considered in the original search for better criteria.

If the question of "how to evaluate" gets into the process of setting criteria, as do the common arguments of "how to meet the objectives," too often critical needs are overlooked because present instruction and organization patterns and evaluation techniques were not designed to be responsive to the new objectives. Therefore, this paper will not consider the question of instructional process or evaluation techniques, nor will it in any way attempt to demonstrate the validity of the new criteria by giving examples of the use of the criteria or examples of how and where they have been measured. This, it seems to me, is the job of the researcher, the evaluator, and the instructional expert whose expertise is in the area of instruction and measurement. The setting of criteria for purposes of instruction and evaluation is primarily a value judgment process which must stand the test of public acceptance.

The previous parts of the paper have attempted to describe the reasons for needing new criteria in addition to indicating some of the specific present practices that are setting objectives in vocational education, and the limitations of some of the evaluative processes that tend to prevent selection of new criteria.

The selection of the four broad categories of criteria is based on premises that assume the primary role of education in preparing for the future.

1. Education has as its major purpose providing specific knowledge and skills as well as learning opportunities that will help the individual prepare for the future. This is also the purpose of vocational education.

2. Education is a societal necessity in preparing for the future and preparation for work has become necessary for everyone in a technological society.

3. Education must be responsive to the unique differences among individuals and among groups in order to educate them for future societal roles, including work.

4. Education must be responsive to change as a fundamental component of the future, especially in the area of work, and thus vocational education must design objectives which brings change in program structure and purpose as well as in the environment where vocational education takes place.

5. Even if education meets individual needs, responds to societal needs, and meets these criteria efficiently, there is still the question of the value of these outcomes if the individual has no opportunity to use his/her education in a work role and society, therefore, receives no benefits from its investment in vocational education.

6. Vocational education has a specific purpose of meeting societal needs in the area of developing work skills especially in the areas where new work skills are being created.

7. All learning for the future cannot be done in the school and the emerging skills, knowledge, and understandings learned through vocational education are often originally developed and used outside the school, thus the involvement of the community becomes fundamental both to learning and also to establishing new criteria.

The broad categories of criteria suggested in the paper derive from the implications of societal change and the recognition that the most common program objectives and processes were established in vocational education long before change became the most valid descriptor of the future. They also assume that regardless of how well vocational education can measure and prove that it is meeting its objectives that many persons question the objectives or criteria in use. The categories chosen also reflect recognition of the fact that change has created much confusion as to just what vocational education should be.

The categories selected provide the common dichotomy of evaluative criteria into process and product categories since the two are necessary components of the teaching and learning process.

Quality of Instruction. This category was selected because it is fundamental regardless of objectives and regardless of process. However, in suggesting specific criteria that might be used, the assumption is made that the future will require that evaluation (1) should not be a process that excludes individuals from vocational education because of their specific weaknesses and (2) can no longer be a measure of quality of instruction. Quality in education has too long been confused with selectivity and fear of the consequences of poor quality instruction has caused many persons to call for a return to guaranteed outcomes through careful selection of students into the program. This may be one of the reasons the federal government is now investing over $10 billion in CETA and only $600 million in vocational education.

Quality of Instruction

Process Criteria for Instruction

1. The degree to which alternative methods are available and used to meet individual student interests, aptitudes, and future working conditions. This suggests that a single methodology cannot be equally effective among the students.
2. The degree to which time and organization are flexible to meet the needs of a variety of students.
3. The degree to which tool learning skills are offered and learned in order that the student may be a continuing learner on the job.
4. The degree to which new and successful instructional processes are rewarded as contrasted to traditional instruction.
5. Staff development related to instructional priorities should be more than simply more education chosen by the individual staff member.
6. The degree that learner assessment and individualized program planning is in use.
7. The degree to which outside advice from students, parents, employers, and citizens is used to redesign instructional processes.
8. The amount of individualized instruction offered.

Product Criteria in Instruction

1. The degree to which all students achieve entry level competencies in an occupational area.
2. The range of skill and learning beyond minimum competencies for every student.
3. The attitude of consumers, parents, students, and employers as to the quality of instruction.
4. Measures of the degree to which vocational courses taken meet individual student career plans.
5. The degree to which students leave prior to completion to secure employment and with minimum occupational competencies. Early learning may be a criterion of success.
6. The degree to which vocational instruction has created understanding by the student of the need for other and additional learning.
7. The degree to which vocational students have knowledge about and can demonstrate employability skills.
8. The degree to which students may select or be employed for work requiring competencies beyond the occupational study area.
9. A measure of individual career growth after leaving the program as compared to matched students without vocational education.
10. A measure of students' opinions of the value of vocational education some years later.

Relevance of Program. This concept of accountability criteria would measure the quality of vocational education against the criteria of judgments by those being taught and the actions of those who finance and use the product. In the long and sometimes short run, persons outside education select evaluative criteria and often this judgment is more perceptive than those whose vested interest that tends toward continuance of program and process and evaluation. These criteria also use the actions of potential students and the actions of the vocational educator as specific indicators of the relevance of the program as related to individual needs and societal changes in the work area.

Relevance of Program

Process Criteria

1. Do all students secure related experience necessary for entry job placement?

2. Are processes established which assess student competencies upon entering vocational education?

3. Have occupational changes in the area over the last few years resulted in program drops and changes?

4. Are special programs, methods, and evaluation in use to assist minorities, disadvantaged and handicapped?

5. Do "power structure" persons serve on advisory committees?

6. Are students involved in the school program and assigned responsibility as they are able?

7. Are student youth groups an important part of the program? Are they delegated authority and responsibility?

8. Are programs planned to inform students, parents, and employers about vocational education?

9. Are outside people with special knowledge used in the instructional program?

10. Do "power structure" parents have their children enrolled?

11. Are students allowed to fail and overcome their failures?

12. Do students cooperate and assist one another in the learning process and, if so, to what degree?

13. Do students carry on self-evaluation?

14. Are periodic reviews made to determine programs that are not relevant? Are they dropped?

Product Criteria

1. Do employers hire vocational students prior to hiring nonvocational applicants and to what degree?

2. Do students learn employment seeking skills and demonstrate these skills?

3. Are vocational staff involved in solving economic, manpower, poverty, and vocational related problems in the community?

4. Do students learn the latest knowledge regarding work, employment, advancement, and the requirements of each?

5. Do students feel more confident, self-motivated future oriented, and capable of their own self-direction as compared to nonvocational students?

6. Do businesspeople and parents have more confidence in the vocational student succeeding in the work world?

7. Do students choose the program and create demand or are efforts solely at recruitment?

8. Do graduates secure additional education to a greater degree than nonvocational employees in the same setting?

Impact of the Program. The concept behind this broad criteria is based on the fact that if something works or is needed most persons will buy it or to put it another way, changes will be made so the new, successful, and valued program can grow. More money will be invested and schedules and priorities will change to allow the new program to try new things. In other words, a success brings more success and support. Since vocational education functions in the environment of other education it is necessary to secure some change in that environment to be more effective in vocational education. Evidences of such successes are criterion which may be looked for as ways to evaluate the quality of vocational education. It is a type of consumer evaluation.

Impact of the Program

Process and Product

1. Is the schedule and organization of the school or are regulations of the board of education changing to accommodate new programs and procedures?
2. Is the record of educational equity better as compared to other programs in the educational organization?
3. Are special funds offered to and used by the vocational department to try and test new things and new ways?
4. Do other educators (nonvocational) visit the school to see new programs and processes?
5. Do the media people know about the vocational program and do they tell about it?
6. Are vocational staff used as advisors in programs outside the school; in school?
7. Have state regulations changed to encourage and reward new programs?
8. Are federal regulations, laws, and appropriations for vocational and vocational related programs changing to accommodate the newer thrusts?
9. Are parents involved in the process of planning their children's education? Do they want to and do they feel it is valuable?
10. Are services being expanded to meet the needs of adults at the request of the adults?
11. Are vocational students respected as students and has the ratio of poor, dropout, and other isolated youth tended more toward normal distribution.
12. Are employers calling on the school?
13. Are youth volunteering to serve the community as part of the program and do agencies and employers request their help?

14. Do adult attitudes toward new vocational programs, objectives, and processes support what has happened?

15. Are activities planned to impact upon the schools, parents, and community?

16. Are new and different individuals and groups being served by vocational education?

Individual Transition and Growth. The ultimate criteria for which vocational education should be held accountable is what happens to the learner when he/she makes the transition to the work world or to the next step whatever it may be. There are many factors other than vocational education which may determine the success of the transition but the ultimate question is what difference did vocational education make? The process of transition in our society has become a major problem for everyone as they move through the passages of life in a mobile, changing, complex society.

If what happens after leaving the program is to be considered as one kind of criteria, then there must be some process by which the transition is made in such a way that the individual gets to use the vocational education he/she received and perhaps even more important that the individual moves into a situation where continued learning can take place. The goal of vocational education may be seen as not only preparing for entry into the workplace but developing a learner whose growth in the work world will be self-actualized by the learning received in vocational education. Furthermore, the economic loss to society in unemployment is small compared to the loss due to under-employment which may have more long range consequences both to the individual and to society. These criteria see the job as a means not the end and thus raise the question of whether placement in a job for which trained is a good criterion against which to evaluate vocational education. It can certainly not be used if the average person changes occupations five times during his/her work life.

Individual Transition and Growth

Process Criteria

1. Is assistance available for transition to the work world?
2. Is preparation for making the transition available and are minimum competencies established?
3. Do parents approve of this service, do employers, do the students?
4. Is there instruction to help students gain knowledge and skills to avoid the failures that 95 percent who lost their jobs have not learned?
5. Is follow-up of graduates used to change the program and process?
6. Do employers and community want to have input into educational criteria based on their involvement in transition and follow-up of students? Do they have input?
7. Are the community citizen and community agencies used in the transition process?

Product Criteria

1. Do students, employers, and community use the service?
2. Do students using this service secure work or employment with greater opportunities for utilizing their talents and training? Is a pattern of change in this use discernable?
3. Do vocational students have long range career plans?
4. Is there evidence that vocational school learners do better at finding, receiving and advancing in the work world toward career goals?
5. Do employer attitudes reflect a positive difference regarding vocational students as compared to nonvocational students in regards to ability to get, hold, and advance on the job?

6. Do vocational students have better knowledge of and understanding about future work and present workplace conditions, requirements?

7. Are vocational students better informed as to future labor force trends and problems?

8. Are vocational students more knowledgeable regarding their own talents, interests as related to career plans than other students?

Limitations

This paper proposes some new criteria that may be more in the realm of "consumer" evaluation than "scientific measurement." Right or wrong, the matter of whether the quality of vocational education can be measured is a hypothetical question, but the matter of accountability is a pragmatic, operational matter. It is assumed that researchers and evaluators as well as traditionalists in education all want to find ways to be more successful. In a democracy, and even more in an educational system which has over 25,000 individual units from K-6 to separate vocational-technical colleges, each independent in terms of administration and operation, the determination of success will be established by the owners and operators of the individual educational units. What is "right" is even more ethereal than what is "successful."

There is a true and proper conflict between what ought to be and what is and one of the limitations of the criteria suggested in this paper is that too much emphasis may be placed on the pragmatic. However, the degree to which the citizen will support the "theoretically right" is often based on the perception of how well the researcher and evaluator may help solve and assess the solutions of the pragmatic, operational problem.

No operator, separated from the theoretical, can help but become out of touch as does the researcher or evaluator isolated from the practitioners.

In a sense, all of us in education are theorists as education has become isolated from society and especially in the work aspect.

Most decisions about education are "value judgments" and the long term basis for vocational education improvement will relate to value judgments rendered by users of and participants in the program, as well as the public official who is accountable for financing and solving societal problems.

The present direct relationship between education and work, now required for nearly everyone, requires a new look at evaluation methods and priorities in educational research. This very fact may be a limitation of the proposed criteria, yet the question of what ought to be should not prevent analysis and assessment of what is.

Another limitation of the proposed criteria is that they put overt and covert pressure on the practitioner who has had little if any preparation as to knowledge and skills required to accomplish the goals and the criteria may meet opposition within the educational community especially among nonvocational colleagues, who may claim them to be irrelevant to "the true and proper" goals of education.

Lastly, most researchers have been prepared to do a different type of analysis than called for by these criteria. The ability to advance professionally in the research and evaluation field is not dependent upon the kind of assessment suggested in this paper.

Lastly, these criteria are begged, borrowed, and stolen and certainly some are wrong--that certainly is a limitation. Some are new but only in context.

Most of you reading this paper will be able to suggest other limitations.

Realistic vs. Ideal Criteria

What is realistic and what is ideal? In attempting to respond to this often argued classification this paper simply defines realistic as criteria that are known, specific, accepted, and measurable. Idealistic criteria are those which are not commonly accepted as one's responsibility, dimly seen, and variably described, and for which there are few recognized measurement processes; however, they are of such a nature that most persons believe "someone ought to do something about them."

Ideal criteria can be used if they are put in understandable terms and if there is proof of positive help for the individual student, employer, and taxpayer.

Employment in the Field for Which Trained

This criterion, while appearing to be realistic and relevant, tends to keep vocational education tied to the past. The evidence is that such a criterion can only guarantee that vocational education will be seen as inefficient since there are too many other factors over which vocational education has no control that impact upon this situation.

The factors that determine whether an individual student can get employment in a specific field are primarily those which are set outside education. At any one time the rate of change in skills, knowledge and technology is so great that employment in a specific field is more dependent on the following:

1. local, state, and national economic conditions
2. mobility of employer and employee
3. government contract awards
4. the shut down of production in a related field
5. discovery of a new energy source or a new machine
6. the quirks of the interviewer
7. the weather
8. the international conflict picture
9. the wealth of the Arabs and the price of oil
10. the changing values or life styles that are "in"
11. others

This is not to imply that failure to get work in a field for which the student is trained, if jobs are available, is not a measure of poor quality in vocational education, but rather it is to say that this criterion, when it dominates the measures of accountability, guarantees that vocational education would become less and less concerned with the future and work change and thereby less and less able to develop new criteria and programs responsive to changing conditions.

The concept of employment in the field for which one is trained needs to be redefined to one that is more relevant to today's workplace and to the individual's need to be able to adjust to the unknown changes in the workplace that will continue to come in the future. In fact, many employers argue that the greatest weakness of vocational education is adherence too closely to specificity of skills which can become obsolete or prevent occupational mobility either vertically or horizontally.

Conclusions

Through this paper, the author has attempted no more than to suggest that traditional criteria for accountability in education and in vocational education are not relevant to the future. Measurement of outcomes against only traditional and validated criteria assigns vocational education to a decreasing role in preparing individuals for future work at a time when preparing for work and changes in work roles are necessary for everyone.

The new and specific needs of special groups and the new and continuing needs in education apply to everyone today and not just to a percentage of the population. Another way of expressing the arguments for the conclusions reached by this writer is that success criteria in both work preparation and in general education which have been traditionally used are not adequate. Somehow, the two must be put together and changed if vocational education is to meet the needs of both learner and society. Such redesign will require changes in product, process and in institutions which are responsible for product and process.

Therefore, the following conclusions should be given consideration in selecting criteria for accountability.

1. Quality in vocational education cannot be tied to the old normative measures designed to select students out of formal education or to select workers to proceed into the higher skilled occupations.

2. Criteria selected must be relevant to the individual needs as well as to new societal problems different from the past.

3. Vocational education methods and processes need to focus more directly on the relationships and learning opportunities in society that will bring education and work experience together in a cooperative effort.

4. Search for specific criteria that can be proven "to be right" may prevent the search for criteria that may be more usable idealistically and realistically.

5. Criteria for accountability must be selected that are responsive to student needs, societal problems, and employer concerns before the evaluation processes can be determined.

Specific Criteria Suggestions

This paper has made no attempt to be definitive in the presentation of specific criteria other than the suggestions made earlier. Perhaps if the suggested broad areas for criteria of accountability make sense a national effort to define specific criteria by a group made up of employers, parents, students, teachers, administrators, policy makers, and legislators could be chosen to define specific criterion in each broad area. This could be a basis for redesigning the criteria for accountability against which vocational education should be held accountable.

This effort ought to be made by those in vocational education so the concern for quality by vocational educators is obvious to those who now see compliance and regulation as the route to forcing vocational education to move toward new criteria.

The four broad categories of criteria to be studied are the following:

1. Instructional and program quality,

2. Program relevance to individual and societal needs in relation to work,

3. Program impact on organization, policy, support and usage of vocational education,

4. Individual transition to and growth in the work world.

Unless the vocational educator and the evaluator of vocational education propose new and better criteria acceptable to society, even more time will be spent in meeting compliance requirements which are becoming ends instead of means.

Therefore, this writer proposes that these four broad categories of criteria become the basis for establishing specific criterion in each area that can assess the broad changes of vocational education in specific units educating students or administering programs.

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REACTION TO CRITERIA AGAINST WHICH VOCATIONAL EDUCATION SHOULD BE HELD ACCOUNTABLE*

We are indebted to Dr. Venn for his insightful and stimulating treatment of a most difficult question with which this conference is properly concerned. It is proper that we are concerned with criteria and outcomes because they are at the very heart of the enterprise. What we choose as criteria for assessment, what we agree to accept as evidence of success, defines our purpose. We cannot divorce our choice of criteria from our concept of the proper role of vocational education. No matter what philosophical statements are made, no matter what goals may be stated in general terms, the criteria we accept will reveal our real (working) concept of vocational education--the one that matters.

Although it probably is wise to exclude "How to Measure" considerations from initial work on the selection of criteria, as suggested by Dr. Venn, it is important to remember that our definitions are incomplete until our measurement operations are defined. In fact, we are not dealing with two different matters--criteria and how to measure them--we are talking about a two-step process of defining criteria: (1) say it approximately, (2) say it more precisely.

Even though we might agree on the importance of criteria and their clear definition, there remain two problems in arriving at a set of criteria against which vocational education should be held accountable. First, note that Dr. Venn says, " . . . regardless of how well vocational education can measure and prove that it is meeting its objectives . . . many persons question the objectives or criteria in use." This is another way of saying that the choice of criteria is inevitably a value question. There is no value-free analysis by which to select criterion outcomes. Since different stakeholders have different needs, different goals, and different priorities for reducing problems, they also have differing expectations concerning the outcomes of vocational education.

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* Reaction to Grant Venn's paper by Edward J. Morrison.

The second problem that shows up (as Dr. Venn often points out in his paper) is that the social, economic, psychological, working world is complex, changing, even unknowable.

All this makes for a pretty hopeless picture. Goals are essential and become practical when measurable, but there is no consensus available on goals because stakeholders differ and because the world is changing kaleidoscopically in ways which cause the stakeholders to change their goals continually--thus to increasing the chaos. In such circumstances, lists of specific criterion measures are not sufficient--they change too soon and we must begin again and again. We need a conceptual device for coping with the uncertain future.

It may be that Dr. Venn has subtly suggested a device which is more familiar in the fields of measurement and philosophy of science--the notion of construct validity. Perhaps we can identify a few criteria about which we could say at any particular time, "If vocational education meets these criteria, the following specific things would be likely." Such criteria would rarely change, but the indicators would be adjusted as necessary to track changes in Dr. Venn's changing world. Relevance of program might be an example--a construct. If we could agree that vocational programs always should have relevance for the needs of students and of other elements of society, a number of indicators of relevance could be chosen at any time from measures appropriate for the times. In this way, the specific indicators might change, but the basic criteria would remain the same.

REACTION TO CRITERIA AGAINST WHICH VOCATIONAL EDUCATION SHOULD BE HELD ACCOUNTABLE*

First, I commend Dr. Venn for his provocative and nontraditional ideas about the criteria against which vocational education should be held accountable. The preparation and presentation of a paper on evaluation in vocational education that barely gives a glance and nod in the direction of federal legislation and its accompanying rules and regulations is a feat worthy of note. I have little doubt but that the implementation of the ideas he proposes will relieve us to a considerable extent from what was referred to yesterday as the "tyranny of the criterion of placement" as the accountability measure of vocational education. On the other hand, the application of his ideas would probably be accompanied by considerable stress and difficulty on the part of vocational educators and the various audiences of vocational education.

In reacting to the paper, I will attempt to extrapolate what I see as some major ideas or concepts regarding the evaluation of vocational education that merit attention, debate, refinement, and--when warranted--systematic testing and appraisal. I believe Dr. Venn is calling our attention to some important issues in accountability and evaluation that we can ill afford to ignore.

As I comment further, I want to make it clear that, in effect, I am "interpreting" since that is a word in the title of the project of which this conference is a part that may not be receiving the attention it merits. The project concerns the interpretation of outcome measures in vocational education. In a real sense, there are a number of factors that influence the interpretations persons or groups place on data and information. One of the factors having a major influence is the values held by those who interpret. I want to comment further on the idea of interpretation later in these remarks.

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* Reaction by J. Robert Warmbrod to Grant Venn's presentation.

Let me indicate and comment briefly on what I see as five major ideas concerning evaluation in vocational education discussed or alluded to in the paper.

Outcomes of vocational education cannot be interpreted validly in isolation from process. The underlying rationale of outcomes as accountability criteria requires a functional relationship between process--instruction--and outcomes. Data describing purported outcomes, however valid, have limited use for policy and program decision making in the absence of a description of the process that supposedly had something to do with producing the outcomes observed. I suggest that the energies devoted to defining a "vocational program" might be better invested in developing a system that facilitates the accurate description of the multitude of different processes that those enrolled in vocational education experience. Perhaps our goal should be to describe the diversity of vocational programs rather than assuming that there is "a vocational program."

A second big idea concerning evaluation that I believe we should pay attention to is the appropriateness of employment as an outcome criteria. Dr. Venn's position is quite clear--transition to the world of work, employment, and advancement are multi-factor phenomena; vocational education has little if any control over many of the factors involved. He puts it this way: "There are many factors other than vocational education which may determine the success of the transition but the ultimate question is what difference did vocational education make?"

Perhaps I can illustrate this point with a "Dear Abby" column that appeared a few years ago. A young girl writes:

> Dear Abby--I have a problem that may be of concern to other girls my age. I have just begun to date and it seems that if I do not let a boy kiss me on the first date I never see him again. But if I do let him kiss me on the first date I never see him again either. So how is a girl supposed to know what to do? Just Wondering.
>
> Dear Just--First you can conclude that whether or not you let a boy kiss you on the first date has nothing to do with whether you see him again. I suggest you go to work on finding other possible causes of you being a one-date Dolly.

If we look at the major evaluation studies of the outcomes of vocational education, we tend to find ourselves in somewhat the same dilemma--there is little difference in outcomes between those who complete vocational education and those who do not. We need to be aware that the outcomes frequently measured have "other possible causes" with some of these causes having a more direct and pervasive impact on the outcomes measured than does vocational education. This issue continues to surface during this conference under the terms employability versus employment.

Another concern alluded to in the paper has to do with the relationship between criteria and measurement. Although Dr. Venn does not discuss this connection at length, the gist of his remarks seems to be that close attention to measurement problems and concerns may impede or prohibit the generation and formulation of appropriate evaluative criteria. Actually, the generation of criteria and measurement are not separate and distinct but stages in the conceptualization and operational development of outcome measures.

Dr. Venn also reminds us that to evaluate is to judge. He states "Most decisions about education are 'value judgments' and the long term basis for vocational education improvement will relate to value judgments rendered by users of and participants in the program, as well as the public official who is accountable for financing and solving societal problems." This brings me back to my earlier comments about interpreting outcomes. If valid interpretations of outcome data are to be made, a first essential is that the data be "true," that is, valid. It is rather obvious that we have ample opportunity for improvement on this score as far as present outcome data are concerned. Actually, this is primarily a measurement problem issue. Another dimension of the truthfulness--the believability--of outcome data has to do with the extent to which factors other than vocational education may be influencing the outcomes observed. These constraints must not only be recognized but their probable impact on strengthening or qualifying interpretations needs to be assessed and made evident. But even with valid and reliable data, that all will accept as fact, it is not uncommon for varying interpretations to result, at least in part, as a consequence of the values or point-of-view held by those who judge.

The last major point I want to draw from the paper is that criteria against which vocational education should be held accountable cannot be separated from the purposes, goals, or objectives of vocational education. From this presentation we have a rather clear indication of what Grant Venn sees as important purposes of vocational education. The degree of agreement within the profession on appropriate evaluative criteria and agreement between the profession and its various audiences on accountability criteria will not exceed the degree of agreement about the expectations we hold for vocational education. In essence, those who set accountability criteria also determine goals and objectives.

This leads to a concluding comment, prompted not only by Dr. Venn's paper but also by other comments voiced during the past two days--perhaps most directly by Mr. Jennings on Wednesday evening. The criteria against which vocational education should be held accountable are specified by the claims we make for vocational education. If those claims are grandiose, encompassing all employment, personal and social concerns over which the school much less vocational education has little if any control, then we should not be too alarmed when the assessment does not substantiate vocational education as the solution to all ills. In effect, we get what we ask for; and some of our perceived antagonists would probably add that we get what we deserve.

ANALYSIS OF EXTANT DATA BASES IN VOCATIONAL EDUCATION*

Background and Need

The placement rates of students as an outcome of vocational education programs have been a source of increasing debate. On the one hand, those who view vocational education as a focused and targeted system of training for specific occupations indicate placement rates are the only "true" measure of program effectiveness. On the other hand, those who view vocational education in a broader context indicate that there are other outcomes that should be considered when evaluating vocational education. Regardless of these two divergent points of view, the Education Amendments of 1976 require each state to:

> . . . evaluate the effectiveness of each program within the states being assisted with funds available under this Act--by using data collected, whenever possible, by statistically valid sampling techniques, each such program within the state which purports to impact entry level job skills according to the extent to which program completers and leavers (i) find employment in occupations related to their training, and (ii) are considered by their employers to be well trained and prepared for employment . . .

Similarly, earlier legislation (e.g., Vocational Education Amendments of 1968, and the Vocational Education Act of 1963) also required states to conduct follow-up studies of vocational students. As a result of the legislation cited above, a number of follow-up studies have been collected and each state has reported a placement rate for the state. These placement rates by states, as well as other vocational education data, have been reported by Lee and Sartin (1973). However, Lee and Sartin (1973, p. 15) prefaced their findings by stating:

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* Presentation by N. L. McCaslin.

> . . . the data (obtained from states) are neither uniform nor complete. In many cases, they are obviously inaccurate, and can easily be misleading. To use them at all raises a question about the value of summaries, analyses, and conclusions based on this kind of material.

Lee and Sartin (1973, p. 15) went on to state that:

> There are numerous problems with the data being collected by state and federal agencies which should be recognized, and these problems should be dealt with if the government's responsibility for public funds is carried out. They fall into three groups: problems of definitions; problems of communication; and problems of careless or dishonest handling of data.

Therefore, if placement data are to be improved so that better interpretation can be made, one area in which systematic investigations will be needed is to demonstrate what happens to placement rates as definitions of relatedness are changed. These investigations could then be used to illustrate the effects of differing definitions of placement in occupations related to training, to personnel responsible for follow-up studies of vocational education completers and leavers.

Types of Information Needed

Prior to discussing how these studies might be conducted, it is necessary to indicate the minimum types of information that would be required to carry out the investigation. This study could be conducted in a limited manner using different definitions of relatedness if the following student information were available:

1. data on the vocational program in which a student is enrolled coded by USOE program codes,
2. data on current occupation coded by the number of the DOT job title,
3. teacher or student judgment of relatedness (e.g., related, somewhat related, unrelated), and
4. a computerization of the information included in *Matching Occupational Classification to Vocational Education Program Codes* (U. S. Department of Labor, 1975).

The remainder of this section will present a brief review of each of the four requirements listed above.

The USOE Program Codes were designed to help local and state educational agencies identify, classify, and describe information about subject matter and curriculum. In vocational education, the codes describe similar groupings of subject matter rather than well-defined courses. Additionally, the programs are not limited to any educational level (e.g., elementary, secondary, or postsecondary) and are applicable to several levels.

In vocational education the codes are largely limited to a six digit number. These digits are as follows:

First 2 digits	Subject-matter area:
	01. Agriculture
	04. Distributive Education
	07. Health Occupations Education
	09. Home Economics
	14. Office Occupations
	16. Technical Education
	17. Trade and Industrial Occupations
Second 2 digits	Principal segment of subject matter
Third 2 digits	Division of principal segment

A comprehensive list and description of these programs are included in *Standard Terminology for Curriculum and Instruction in Local and State School Systems* (U. S. Department of Health, Education, and Welfare, National Center for Educational Statistics, 1970).

DOT Job Titles are basically numbered using a nine-digit code. The first six-digits reflect the kind and level of work performed, while the last three digits are assigned to further differentiate occupations. The *Dictionary of Occupational Titles* (U. S. Department of Labor, 1977) presents a detailed explanation of the classification structure.

Teacher or student judgment of relatedness is generally in the form of related, somewhat related, or unrelated. In making this decision individuals are asked to make a judgment on the degree to which their training is related to their present occupation. Some states, such as Oklahoma, ask students to indicate whether: skills learned in vocational education are highly significant in this occupation, skills learned in vocational education are significant in this occupation, or skills learned in vocational education are not significant in this occupation.

Matching occupational classifications to vocational education program codes has also been discussed in a publication of this same title (Department of Labor 1975). This publication matches vocational education program codes with related Bureau of the Census codes and Dictionary of Occupational Titles codes. If this information were computerized, the computer could then be asked to determine if the student's occupation were related to his or her training and the placement rate could be determined for given vocational programs.

Proposed Procedure for Comparing Placement Rates for Differing Definitions of Relatedness

If a data base had information on all four of the items previously discussed it would then be possible to demonstrate the effects of the different definitions of relatedness on placement rates. The purpose of this section is to illustrate how the comparison could be accomplished. In conducting this analysis, the following four major steps would be needed:

1. Determine the USOE program codes (to the sixth digit) included in the data base.

2. Determine the number of students in related occupations, using Matching Occupational Classifications to Vocational Education Program Codes, (Department of Labor 1975), for each of the three successive combinations of two-digit numbers of the USOE program codes included in the data base. (If the information were computerized so that the information on vocational program codes and DOT job titles could be crosswalked, this would be fairly routine.)

3. Compute percent placement rates for each definition of the three vocational education program codes.

4. Compare these percentages with those obtained using the teacher or student judgment of relatedness.

The following section will discuss how this could be done operationally for a secretarial program in vocational education. If a secretarial program in vocational education is defined as 14.0000 (Office Occupations) then related occupations (according to the Department of Labor publication cited above) include the following 93 job titles:

919.168-010	Dispatcher, motor vehicle
249.268-024	Survey worker
249.368-010	Claims clerk
249.368-034	Credit reporter
160.288-018	Estimator
221.168-010	Material coordinator
221.168-022	Production coordinator
221.388-054	Production clerk II
222.368-014	Expeditor I
206.388-018	File clerk
205.368-026	Personnel clerk
168.288-014	Claim examiner I
249.368-050	Library assistant
233.388-010	Mail carrier
228.388-014	Rural mail carrier
231.588-015	Mail clerk
239.587-010	Mailer
230.878-022	Messenger
230.878-026	Office helper
249.388-038	Messenger, bank
239.588-018	Meter reader
215.488-010	Payroll clerk
219.388-274	Timekeeper
232.368-010	Distribution clerk
209.688-034	Proofreader I
209.688-014	Insurance clerk
237.638-038	Receptionist
222.587-042	Shipping clerk
222.387-026	Shipping and receiving clerk
222.387-018	Receiving clerk
219.388-258	Statistical clerk
219.388-074	Coding clerk
219.488-034	Cost clerk
249.368-026	Court clerk
223.388-014	Inventory clerk
230.868-010	Telegraph messenger I
236.588-014	Telegrapher
235.862-018	Information operator
203.588-014	Telegraphic typewriter operator
235.862-026	Telephone operator
235.862-010	Central office operator
235.138-010	Central office operator supervisor
235.138-014	Telephone operator chief

249.368-030	Credit clerk I
120.188-026	Programmer, business
012.168-022	Systems analyst, business electronic data processing
219.488-010	Accounting clerk
249.368-050	Library assistant
161.268-010	Clerical technician
166.268-014	Employment interviewer
166.118-022	Manager, personnel
168.168-050	Manager, credit and collection
161.118-018	Treasurer
169.168-014	Administrative assistant
232.138-010	Supervisor, mail
169.168-062	Manager, office
201.368-010	Legal secretary
201.268-018	Secretary
201.368-014	Medical secretary
202.388-014	Stenographer
202.388-010	Court reporter
209.388-022	Clerk typist
203.588-018	Typist
217.388-010	Proof machine operator
214.488-010	Payroll clerk
217.388-010	Transit clerk
219.388-026	Billing clerk II
216.488-018	Calculating machine operator
216.488-010	Adding machine operator
213.382-018	Digital computer operator
207.885-010	Duplicating machine operator
207.782-014	Duplicating machine operator II
207.782-026	Offset-duplicating machine operator
213.382-018	Digital computer operators
213.138-010	Supervisor, computer operations
213.782-010	Tabulating machine operator
222.687-034	Sorter
209.698-045	Sorter
216.488-018	Calculating machine operator
234.582-010	Addressing machine operator
208.885-010	Collator operator
219.388-254	Sorting clerk
212.368-010	Teller
219.388-026	Billing clerk II
209.588-018	Clerk, general
210.388-210	Bookkeeper
211.368-010	Cashier
209.588-018	Clerk, general
169.168-026	Chief clerk II
219.388-066	Clerk, general office
213.138-010	Supervisor, computer operations
240.388-010	Collection clerk

However, if a secretarial program in vocational education is defined as 14.07 (stenographic, secretarial, and related occupations) then related occupations include only the following five different job titles:

201.368-010	Legal secretary
201.368-018	Secretary
201.368-014	Medical secretary
202.388-014	Stenographer
202.388-010	Court reporter

Finally, if secretarial programs in vocational education are defined as 14.7092 (secretaries) then related occupations include only the following three job titles:

201.368-010	Legal secretary
201.368-018	Secretary
201.368-014	Medical secretary

Therefore, three different tables of data would be developed for each of these three different definitions of secretarial programs. Table 1 illustrates how the number of students in related occupations would be displayed if related occupations for secretarial programs (14.0702) are defined as those appropriate for office occupations (14.0000). This table would have the 93 occupations that are considered related by *Matching Occupational Classifications to Vocational Education Program Codes* (Department of Labor 1975).

Table 2 illustrates how the number of students in related occupations would be displayed if related occupations for secretarial programs (14.0702) are defined as stenographic, secretarial and related occupations (14.07). This table would have the five occupations that are considered related by *Matching Occupational Classifications to Vocational Education Program Codes* (Department of Labor 1975).

Table 3 illustrates how the number of students in related occupations would be displayed if related occupations for secretarial programs (14.0702) were defined strictly as secretarial programs (14.0702). This table would have three occupations that are considered related by *Matching Occupational Classifications to Vocational Education Program Codes* (Department of Labor 1975).

Once the total number of former vocational education students placed in related occupations has been determined for each of the three classification systems previously discussed, a percent placed in related occupations could

Table 1

Suggested Table for Displaying Numbers of Former Vocational Students in Occupations Considered Related to Secretarial Programs (14.0702) When Relatedness is Defined as Any Occupation Related to Office Occupations (14.0000)

Related Occupations DOT Job Title Number	Number of Former Vocational Students Employed in the Occupation
1. Legal secretary 201.368-010	
2. Secretary 201.368-018	
3. Medical secretary 201.368-014	
4. Stenographer 202.368-018	
5. Court reporter 202.389-010	
6. Programmer, business 020.188-026	
7. System analyst, business electronic data processing 012.168-022	
8. Accounting clerk 219.488-010	
9. Typist 203.588-018	
10. Teller 212.368-010	
11. Cashier I 211.368-010	
12.	
...	
94.	
Total	

Table 2

Suggested Table for Displaying Numbers of Former Vocational Students in Occupations Considered Related to Secretarial Programs (14.0702) When Relatedness is Defined as Any Occupation Related to Stenographic, Secretarial, and Related Occupations (14.07)

Related Occupations DOT Job Title Number	Number of Former Vocational Students Employed in the Occupation
1. Legal secretary 201.368-010	
2. Secretary 201.368-018	
3. Medical secretary 201.368-014	
4. Stenographer 202.368-018	
5. Court reporter 202.389-010	
Total	

Table 3

Suggested Table for Displaying Numbers of Former Vocational Students in Occupations Considered Related to Secretarial Programs (14.0702) When Relatedness is Defined as Any Occupation Related to Secretarial (14.0702)

Related Occupations DOT Job Title Number	Number of Former Vocational Students Employed in the Occupation
1. Legal secretary 201.368-010	
2. Secretary 201.368-018	
3. Medical secretary 201.368-014	
Total	

be computed by dividing the total number of students in related occupations by the number of students completing or leaving the secretarial program. These percentages could then be compared with the percent placed in related areas using teacher or student judgment. Table 4 illustrates how this table would appear.

Assuming the previous statements related to the types of information needed and the procedures for conducting a study are correct, then the next logical step would be to identify existing data bases that would be accessible for this type of analysis.

Search for Extant Data Bases

In searching for extant data bases, the project advisory council suggested that the project staff limit their search to state and larger local education agencies. These agencies were identified through telephone contacts to state and local education agencies thought to have the potential for this type of analysis and recommended by the project advisory council. In turn, the project staff was referred in some cases to other agencies who, in the opinion of the person contacted, might have the required types of information in an existing data base.

The following education agencies were contacted.

State Agencies

Colorado
Florida
Kansas
Minnesota
Missouri
Oklahoma
Texas

Local Agencies

Cleveland, Ohio
Gainesville, Florida
Mesa, Arizona
New York City, New York
Oakland, California

Additionally, the project staff carefully reviewed *Occupational Information Resources: A Catalog of Data Bases and Classification Schemes* (Ashley 1977). This publication lists and describes a total of 55 different occupational data bases.

As a result of the effort described above, no data bases were identified that had all the information identified as necessary for the study described for the project. Therefore, a case study of states known to have differing placement rates was recommended to identify

Table 4

Percent Placed in Related Occupations When Different Definitions of Vocational Programs are Used

	USOE Program Codes			
Program Title	First 2 Digits (14.0000)	First 4 Digits (14.07)	First 6 Digits (14.0702)	Teacher and Student Judgment
Secretarial				

reasons for such wide discrepancies in placement rates as those reported by Lee and Fitzgerald (1975, p. 73) in which they reported placement rates for all vocational education students then employed (1974). The ratio of "employed in field other than that for which trained" in their report ranged from about 20:1 to 1:1.5. This type of range leaves little doubt that there is a need to try and identify why these rates vary so dramatically and why a case study of the phenomenon would be appropriate prior to designing empirical studies related to these "unknown factors."

Summary

This paper has described the process that was followed in attempting to identify extant data bases for an empirical study of the effect of different definitions on placement rates of vocational education students. In this process, the need for the investigation, the types of information needed, the proposed procedure for comparing placement rates, and the search for extant data bases have been summarized.

In conducting this search for extant data bases with which to investigate the effects of differing definitions on placement rates, a number of problems seemed to pervade this activity. For purposes of this summary, these problems have been grouped in the following three major areas: the definition of terms, the design of the evaluation, and the door of the classroom.

The definition of terms seemed to be a major obstacle. In most of the data tapes students were classified as either vocational, general or college preparatory. Generally, students were not coded by USOE program codes and if they were, they usually included only the first two digits. No information was included relative to the length of time students spent in vocational classes. Current occupations were generally not included but were reported as related, somewhat related, or not related.

The design of the evaluation was the second major problem. Most of the studies identified were conducted for other purposes. As such, it was unfeasible to expect that the data could be manipulated using yet another design.

The third and final problem in dealing with extant data bases was the door of the classroom. Who is to know the actual content of the class reported by a USOE code? Certainly, many deviations could be expected due to the varying situations one could expect, e.g., teacher differences, student differences, geographic difference, etc. The reliance on teacher reported data from each classroom further complicates the situation. Although teachers would be expected to report their figures honestly, certain variations would normally be anticipated due to the varying interpretations made from the original questions.

Although the original intent to identify existing data bases for secondary analysis was sensible, it is highly unlikely that this type of information is available. Perhaps vocational educators should consider joining efforts with other longitudinal studies and request data coded in a manner that would then be used in a study such as this paper described. Until the information becomes available, the impact that differing definitions of relatedness has on placement rates will remain a question for further debate.

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SUMMARY REPORT OF SMALL GROUP INTERACTIONS*

It is difficult to summarize the small group interactions. However, it is easy to summarize the process. The small groups were very well organized and conducted. A diversity of professional backgrounds was represented as evidenced by managers, teacher educators, and researchers in each group.

It is more difficult to summarize the content of the small group activity. Anyone familiar with the topic of this conference is well aware that many dilemmas confront one when considering outcome measures for vocational education. These dilemmas were referred to by the speakers and confirmed in the small groups.

I have chosen to summarize the report of small group interactions by listing the dilemmas.

DIMENSIONS OF IDENTIFYING OUTCOME MEASURES FOR VOCATIONAL EDUCATION

1. Sensitive versus sensible measures.
2. Comprehensive versus operational definitions.
3. Data for federally versus nonfederally funded vocational education programs.
4. Federal versus state versus local.
5. Education versus training.
6. Long-range versus short-range benefit effects.
7. Responsiveness to constituency versus changing the values of our constituency.
8. Best or least bad alternative for student.
9. Compliance versus improve decision making.

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* Presentation by George Copa.

10. Define use of data versus create need for data.

11. Mandating process and reporting versus mandating quality.

12. Formal versus informal information systems.

13. Adversary versus advocate.

14. Promise nothing versus promise everything.

15. Standardized data bank versus specific studies, evaluation versus evaluative research, description versus relationships (cause and effects).

16. Changing versus stable information demands.

17. Consumer versus producer in defining purpose and outcome measures.

18. We versus they--isolation of vocational education from CETA and other programs.

19. Secondary versus postsecondary versus adult.

20. Collecting versus interpreting.

21. Let's get job done versus let's talk some more.

22. States as same or different--percent of vocational education funds, expected placement rates, use of federal funds.

23. Vocational education versus service areas.

24. One way versus two-way flow of data.

25. Simplistic versus complex.

Perhaps this is over emphasizing the differences, but to have stressed the commonalities would have required much more time. There appears to be a frustration with the lack of progress to resolve the dilemmas.

One suggestion is that vocational education needs a mini-congress within which to debate the issues, present evidence and to make decisions. Such a policy forum could contribute greatly to resolving some of the key issues in vocational education.

PERCEPTIONS OF CONFERENCE ANALYST*

The National Conference on Outcome Measures for Vocational Education is now history. There have been extensive opportunities for individuals to listen, think, and interact with one another on this timely and important topic. In addition, participants have in their possession a notebook complete with the significant artifacts (e.g., papers and conference notes) for reference and sharing. I want each of you to think creatively about how the information you have received might be shared within your own organization. Perhaps this material might even make your job easier if the appropriate individuals are made aware of even a small portion of the information you have received.

The presentations were scholarly and delivered in an articulate and professional manner. Each individual was keenly aware of the audience to which he/she was addressing and knowledgeable of the types of problems the workshop participants were facing. Bob Morgan provided us with a report on the status of the Vocational Education Data System of which he is so knowledgeable. His discussion gave us an excellent updating of his most difficult job.

The banquet speaker, Jack Jennings, gave us new insights into the Congressional perspective and their subsequent influence on federal legislation. The three major papers represent significant contributions to the field. Mary Kievit causes us to rethink potential outcomes by considering how they might be more closely related to the values of our various audiences and provided a beginning for how we might deal with linking various values to programs of vocational education. Donald Drewes asked us to think about the use of the evaluative information to improve vocational programs. His proposal asked us to consider a feedback link from the federal to the state and associated agencies. Grant Venn's provocative paper has asked us to consider that traditional outcome criteria are not relevant for the future and that we begin to suggest new and better criteria, acceptable to society so that less time will be spent in meeting the requirements of the legislated and subsequently compliance efforts in evaluation.

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* Presentation by N. L. McCaslin.

The reactors to the three papers were perceptive and caused us to reflect upon each topic from a slightly different perspective.

George Copa has assembled information on concerns and comments previously discussed in the small groups. However, I might also state that the small groups provided dialogue that was necessary to maximize the benefits of the information presented in the large groups. The participants, group leaders, and recorders are all to be commended for excellent learning opportunities.

Bob Billings' overview of the area of job satisfaction and job performance helped bring into focus problems in this area. His comments should enable us to examine the handbook on vocational education measures in a more useful manner. The handbook provides, for the first time, a ready reference to potential measures for following up vocational students and their employers.

The report of the project efforts to make better interpretations of placement percentages provided us with the opportunity to see how outcome measures might be practically applied to a real evaluation problem in vocational education.

I would be particularly remiss if I did not say a word about the excellent hospitality that Billy Howard extended to us on behalf of the Commonwealth of Kentucky and the city of Louisville. The tour of the Jefferson State Vocational School and Manpower Skill Center was a special "side effect" outcome.

We are especially pleased that the National Institute of Education saw the need for this Conference as a part of our scope of work and for the inputs we have received from the project advisory panel. We are particularly pleased with the cooperation that we have received from our project monitor, Bob Stump. The dialogue we have had with Bob over the past several months on project matters has been informative and helpful in conducting the project.

If a conference is to be a success, it needs to be structured so that the original objectives can be met, as well as flexible to accommodate unanticipated events. I would particularly like to commend the project staff--Floyd McKinney, Kenney Gray, and Marie Abram--for the way in which they kept us on schedule and targeted our efforts during these three days.

I would like to conclude these remarks by presenting my perceptions of ten important reflections on outcomes for vocational education that have emanated from this Conference. I would imagine that you could add to this list and would encourage you to do so. It would be my hope that these ideas are just the beginning of a continuing dialogue on such an important topic.

1. Outcome measures associated with vocational education are complex due to the wide variety of programs offered.

2. Outcome measures are potentially controversial due to the differing philosophical viewpoints and values associated with vocational education.

3. Outcome measures in vocational education should not be constrained by federal legislation--emphasis should be given to how the outcomes might be used in program improvement efforts.

4. It is difficult to reach agreement on outcome measures for vocational education due to the differing levels of interest (e.g., secondary, postsecondary, adult, federal, state, local, etc.).

5. The traditional outcome of vocational education (i.e., placement) may be interesting but not necessarily helpful or useful as the ultimate criteria due to the wide variety of influencing factors (e.g., economics, employment rates, etc.).

6. Some outcome measures will need to address the ability of the students to perform the occupational skills that vocational programs profess to teach.

7. The results of evaluation need to be linked with planning. In the past, evaluation has been viewed as a one-way upward flow of information with little relevance for program improvement.

8. In attempting to measure the outcomes of vocational education, we need to consider alternatives (e.g., systematic observation, interviewing, paper and pencil tests, proficiency tests, unobtrusive techniques, etc.).

9. It is important to question that which we are about and not become complacent by merely accepting where we have been as the necessary roadway of the future.

10. Vocational educators need to be able to increase our ability to question and to think systematically about the future.

In response to George Copa's questions as to where are the Prosser's or Dewey's I say, perhaps they are within this room--it is up to you.

IV. NATIONAL CONFERENCE

The National Conference on Outcome Measures for Vocational Education was held August 16-18, 1978 at the Galt House, Louisville, Kentucky.

PLANNING AND CONDUCTING THE CONFERENCE

CONFERENCE OBJECTIVES

The objectives of the conference, in terms of outcomes for the participants, were as follows. At the conclusion of the conference, the participants will be able to

1. identify and explain the problems and issues concerning the interpretation of vocational education outcome measures;
2. identify alternative criteria for determining vocational education outcomes;
3. develop a rationale for the selection of alternative criteria for determining vocational education outcomes;
4. analyze the consequences of having standardized vocational education outcome measures;
5. identify the needs of significant audiences concerning vocational education outcome measures; and
6. develop recommendations for future research and development activity concerning vocational education outcome measures.

CONFERENCE PROMOTION

The following major promotional activities were conducted prior to the conference.

1. Printing and distribution of a brochure. The brochure included the objectives of the conference, major presentations, an overview of the conference agenda and preregistration information. The brochures were mailed to head vocational teacher educators, state directors of vocational education, state directors of vocational education research coordinating units, state vocational education planners and evaluators, directors of vocational education in the large city schools, vocational education management information personnel, federal government officials, and selected others.

2. Articles in the American Vocational Journal, Centergram, and Manpower Weekly. These articles provided conference highlights and preregistration information.

3. Personal letters of invitation. Over 150 personal letters were mailed by the project staff to personnel in Kentucky and the surrounding states. Personal letters were also mailed to selected individuals in all states.

CONFERENCE AGENDA

The conference agenda was planned around major presentations, with reactions by the members of the project advisory committee. Small group sessions were used to secure participant reactions to the presentations. A summary of the conference program follows.

Wednesday, August 16, 1978

1:00-1:30 p.m.	Conference Registration	

FIRST GENERAL SESSION

1:30 p.m.	Presiding - Floyd McKinney	
1:30 p.m.	Greetings from the National Institute of Education	Robert Stump

	Welcome to Kentucky	Billy Howard
	Introduction of Project Staff and Project Advisory Committee	Floyd McKinney
	Overview of Conference and Projected Conference Outcomes	Kenney Gray
2:00 p.m.	A National Problem: Interpreting Outcome Measures in Vocational Education	Robert Morgan
2:30 p.m.	Questions and Answers	
2:45 p.m.	Break	
3:15 p.m.	Value-based Premises Underlying the Choice and Interpretation of Outcome Measures in Vocational Education	Mary Kievit
4:00 p.m.	Reaction	Ralph Bregman
4:10 p.m.	Reaction	John Grasso
4:20 p.m.	Recess	

SECOND GENERAL SESSION

6:00 p.m.	Reception	
7:00 p.m.	Dinner	
	Master of Ceremonies	N. L. McCaslin
	Evaluating Vocational Education: A Congressional Perspective	John Jennings
9:00 p.m.	Meeting of Small Group Facilitators and Recorders	

Thursday, August 17, 1978

THIRD GENERAL SESSION

Presiding - Kenney Gray

8:30 a.m.	Requisites for and Consequences of Definitional Standardization for Vocational Education Impact Data	Donald Drewes
9:15 a.m.	Reaction	Arthur Lee
9:25 a.m.	Reaction	JoAnn Steiger
9:35 a.m.	Break	
10:00 a.m.	Small Group Interaction Group A Leader - Arthur Lee Recorder - Roy Giehls Group B Leader - Donald Healas Recorder - Bob Andreyka Group C Leader - Ralph Bregman Recorder - Jim Bebermeyer Group D Leader - Robert Warmbrod Recorder - Martha Raymer Group E Leader - JoAnn Steiger Recorder - Jesse Clemmons Group F Leader - John Grasso Recorder - Bill Richardson	
11:45 a.m.	Break	
12:00 noon	Conference Luncheon	

FOURTH GENERAL SESSION

Presiding - Marie Abram

1:30 p.m.	Concepts and Complexities of Measuring Job Satisfaction and Job Performance	Robert Billings
2:00 p.m.	Reaction	Donald Healas
2:15 p.m.	Questions and Answers	
2:30 p.m.	Instruments for Measuring Job Satisfaction and Job Performance	Kenney Gray
2:50 p.m.	Questions and Answers	
3:00 p.m.	Break	
3:30 p.m.	Analysis of Extant Data Bases in Vocational Education	N. L. McCaslin
3:45 p.m.	Report of Project Case Study Findings	
4:00 p.m.	Recess	

Friday, August 18, 1978

FIFTH GENERAL SESSION

Presiding - Floyd McKinney

8:30 a.m.	Criteria Against Which Vocational Education Should be Held Accountable	Grant Venn
9:15 a.m.	Reaction	Alan Sheppard
9:25 a.m.	Reaction	Robert Warmbrod
9:35 a.m.	Break	
9:45 a.m.	Small Group Interaction	
11:30 a.m.	Break	

11:45 a.m.	Conference Luncheon	
12:30 p.m.	Summary Report of Small Group Interactions	George Copa
12:50 p.m.	Perceptions of Conference Analyst	N. L. McCaslin
1:00 p.m.	Participant Evaluation of Conference	Marie Abram
	Conference Adjournment	

SMALL GROUP INTERACTION

During the Conference, the participants were assigned to six groups to interact and formulate reactions to the major presentations. Following are the reactions of each small group.

Small Group A
16 Members

Small Group Response to Paper by Morgan

A. Some of the questions and their reactions were:

Q: Is VEDS to be a service function or merely a vehicle to determine compliance with legislative mandate? What should it be?

R: VEDS is a compliance mechanism. Failure to comply could result in curtailment of federal support. Feedback is needed by NCES but regulations will have to be followed.

Q: Should there be a national standardization of vocational education data?

R: This represents the ultimate, but many of the participants feel that such standardization is virtually impossible.

Q: Will data be collected from all vocational programs in a state or only those programs supported with federal funds?

R: Colorado has instituted a statement of intent by the student, but it was indicated that persons weren't happy about it. One reason for reporting all students would be to more accurately determine labor market needs.

Q: Should there be a difference in outcome measures needed at the local, state and federal levels?

R: Yes. LEA's need the most information, state agencies need less, and the federal government needs the least.

Q: How many former students and employers should be involved in follow-up--the population or only a sample?

R: It was pointed out that NCES will establish sample designs which are optional.

Q: To what extent is VEDS being coordinated with other federal reporting requirements such as CETA, VA?

R: NOIC has been established to eliminate unnecessary and duplicative information.

Q: What does VEDS mean when they refer to a certificate?

R: No consensus on this item.

Q: What uses should be made of the data?

R: Data must be in a form that will assist LEAs in program improvement.

Q: What is the pay-off from VEDS?

R: As far as vocational education is concerned, it will benefit from more information rather than suffer from it. The coercive aspects of VEDS should be unnecessary.

B. Some of the concerns of the group were:

1. NCES may have interpreted the federal mandate too literally. It appeared to some participants that the system will be both expensive and difficult to implement and will yield little useful information for program improvement.

2. Former students are being imposed upon when they are asked to identify immediate supervisors or employers. It was pointed out, however, that in those states conducting evaluation of employer satisfaction this had not been a problem. Students when informed of the follow-up and its purposes, tend to be more cooperative and return rates are higher.

3. The method being used to determine employer satisfaction may not be the most effective. One alternative would be to secure reactions from persons employing vocational completers rather than accumulating information on an individual basis.

4. A concern has been expressed by some states about reporting only those programs included in the state plan. One participant pointed out that to report others would be like including history or math students. Discussion revealed that many states have legitimate vocational programs which neither receive federal funds nor are reported in the state plan.

5. The number of hours requirement as a criterion for an eligible program may eliminate reporting many students who are legitimate completers.

6. Because of the many federal programs associated with vocational education, students may be reported more than once.

Additional comments regarding the VEDS discussion were:

1. When NCES decides on the requirements for a data system, such requirements should remain constant for five years.

2. If schools are really attempting to improve output data, they may stiffen admission requirements.

Small Group Response to the Paper by Billings

A. Some of the questions were:

Q: How does an evaluator know whether satisfaction comes from the job or training?

R: It was noted that other elements having no relation to education may impinge on job satisfaction. There are multiple effects present here. Far more confusion than knowledge exists regarding the outcomes of vocational education.

Q: What are the problems attached to competency testing?

R: Perhaps this is a matter for another conference.

Q: Should we, or can we have national standardization of competency testing?

Q: Can a profile of students and programs be developed that will more adequately indicate the outcomes of vocational education?

Q: What about a study by the National Center that would identify the components of a student profile?

B. Comments

1. It is important that concerns regarding outcome measures be voiced now rather than waiting for them to be prescribed.
2. We must assume that most information we get from local agencies is valid.
3. Vocational education is doing a better job of gathering and disseminating data than any other area of the educational enterprise.
4. Too much emphasis has been given placement as a criterion for success.
5. Interpretation of data is important. Many factors other than the attainment of vocational skills affect job placement.

6. The National Center could make a significant contribution by providing leadership in the development of a model for evaluating vocational programs.

Small Group B
14 Members

Small Group Response to Papers by Morgan, Drewes, Kievit, and Jennings

A. Areas of Agreement

1. Conference

   a. Must find middle line between evaluation needed for local planning and evaluation for federal level (accountability).

2. Learn from Title I and other past evaluation systems.

   a. National systems have little utility to anyone.
   b. A national data system does not answer questions; Congress wants to know, "Is the nation better off because of vocational education?"
   c. Congress-needed data has limited utility at state and local levels.

3. National Evaluation

   a. The die is cast; current evaluation conference cannot change criteria. However, a critique is necessary to change future evaluation systems.

4. Drewes' Paper - local level

   a. Local level units will only accept data to support their own value system.
   b. Decision makers must be open to evaluative data (agreement in group that a national system will not be accepted).
   c. School districts planning for five years must include what surrounding school districts are doing.

        d. Good data base needed at local level--process compatible to collecting national needs; however, a national system may not pick up unique conditions and program at the local level.

    5. State Level

        a. In some states (Ohio, Florida), state legislatures are asking questions and providing money to do evaluation.
        b. Agreement that states must provide funds to LEAs to conduct evaluations. In this way, decision makers could plan and insure quality programs.

    6. Job Placement Criteria

        a. State legislatures and Congress do not know what they want, but they do want to know job placement information. Not interested in other things vocational education could do.
        b. Vocational education could be destroyed if job placement is only criterion used.
        c. Job satisfaction and job satisfactoriness will cause problems for vocational education if they are the only criteria considered.
        d. Vocational education placement match to manpower data will shift interest to CETA.

B. Areas of Disagreement

    1. Politics at local level determine all things. Although there was agreement in that local education agencies must face dropping programs, there was disagreement on the emphasis Drewes places on locals abiding with local politics.

    2. Disagreement with Drewes that only formal efforts are being done. Use of informal telephone calls within the state are common.

    3. Caution--people will resist most data that will result from evaluation efforts.

C. Areas Needing Further Consideration

1. Definitions
    a. Groping for definition "What is a vocational student?"
    b. Competency-based programs could vary the number of hours necessary for mastery.

2. Who will use evaluative data?
    a. Legislatures and board members will ask, "How is vocational education impacting on social issues?"
    b. State should insist that data be used at local program level for decision making.
    c. AVA will use data to help vocational education. Opponents will use same data to hurt vocational education.

3. Use system that is in place.
    a. All local education agencies and states are providing data to federal government.
    b. Adapt system and develop a sampling formula (some states have large numbers, other states do not need to sample because "universe" is manageable).
    c. Ohio and Florida must follow up all vocational education students who graduate or leave program.

4. Purpose of vocational education.
    a. Must provide vocational education programs for objectives other than job placement.
    b. It is dangerous to be tied only to manpower formula.

5. Strengths that should be emphasized.
    a. Vocational education improves retention in secondary schools.

Small Group C
20 Members

Small Group Response to Presentation by Jennings

A. Congressional Expectations

1. Planning should be done in order to make decisions about programs.
2. Reduction of unemployment of youth, disadvantaged and handicapped.
3. To know what happened to students other than those placed in jobs.
4. To know funding mix for local programs.
5. Placing of people in jobs related to their training (which is what we say we are doing).
6. Additional value (of output) for added cost of vocational education.
7. Reduction in duplication of programs, national and state. Comment: The responsibility for this reduction placed on vocational education should be shared.
8. Long term trends to show some degree of match between vocational education program areas and labor market demand.
9. Positive effects in terms of employment of handicapped, minorities, and women in nontraditional occupations.
10. Employers be satisfied with the work, readiness, and skills that students receive. Comment: Methodology should include personal interviews with employers in addition to questionnaires.
11. Student to be satisfied with the program.

B. Information Needed

1a. Manpower needs
b. Enrollment
c. Output costs

2a. Special programs
 b. Work history of students
 c. CETA--ramifications

3a. Information that could lead to reducing unemployment
 b. Follow up needs

4a. State contribution
 b. Local contribution

5a. Follow-up
 b. Maintain accurate data
 c. Evaluation
 d. Salaries of graduates versus salaries of nongraduates

6a. More definitive statement of individual program standards expected
 b. Evidence that standards are reached
 c. How student achievement contributes to improvement of a student's status in the labor market

7a. Evidence from coordinating councils
 b. Information from private and public sectors

8a. Match between program graduates and labor demand

9a. Handicapped (groups) who previously had no access to vocational education.
    1) enrollment
    2) job placement
 b. What traditional programs have accomplished
 c. Enrollment by sex, race, program

10a. Employer survey comparing vocational education and nonvocational education trained people.
    1) skills
    2) attitudes
    3) motivation

11a. Job information

C. Additional Expectations Identified in Whole Group Session

1. Vocational education system to have ability to adjust to employer needs.

2. Data to be used to improve local programs. (Group felt this was not a Congressional expectation.)

3. Vocational educators to add expectations to those expressed by Congress, e.g., more rapid advancement of vocational education graduates, higher wages, etc. (Group felt this was not a Congressional expectation.)

4. Coordinated planning leading to adjustments in delivery.

5. To be able to compare output from vocational education with output from other training sectors.

6. Input should be measured (characteristics of students) as well as output measured in terms of standards.

Small Group Response to Paper by Venn

A. Concerns of Vocational Education

1. Found that criteria for vocational education evaluation is appropriate.

2. Vocational educators help set standards--and stressed that vocational education is for preparing for jobs. Therefore, job placement has been prior criterion.

3. Nontraditional measures--retention in higher education.

    a. Youth clubs in vocational education
    b. Cooperative attitude
    c. Self-concept
    d. Greater growth in co-op (in real world) motivation to go on.

4. Myths in vocational education such as the following should be challenged:

    a. individual changes jobs five times.
    b. industry wants general or liberal arts background and train them.

5. Need to define how we will use evaluation at local, state, and federal levels.

6. National system does not mean standardization in vocational education.

7. Policy on evaluation needed.

8. Dealing with special population group could reduce placement.

9. "What we talk about is what we are judged by."

10. Tasks--common denominator across the country. Tasks crossover to identify related occupation.

11. Special population in vocational education will affect placement.

12. Criteria for disadvantaged bilingual.

13. Special needs need to be considered on data collecting and evaluation.

B. Issues in Vocational Education

1. Identify outcomes for other state.

2. If we are judged on placement, there should be funds to do it.

   a. Placement service in each school

3. Placement forms should obtain more data on technical skills.

4. Purpose of evaluation should be to help local schools.

5. National policy clear on special populations.

Small Group Response to Billings

A. Questions of Concern to Vocational Education

1. What are the key determinants of job satisfaction and job performance?

   a. Salaries
   b. Job advancement opportunities
   c. Security
   d. Fringe benefits
   e. Skill levels

However, all of these items could change day-to-day depending on many variables such as family responsibilities, i.e., single individual being at home or married individual with family responsibilities.

2. What complexities in measuring job satisfaction and job performance should vocational educators give particular attention.

   a. Age of student
   b. Self sufficient
   c. Married or single
   d. Health
   e. Personal goods
   f. Attitudes

   Note: We are not taking exception, but are basically accepting Dr. Billings' premises as outlined in his presentation.

3. What rationale can be provided for using employee job satisfaction as a vocational education outcome?

   Need to look at assumptions under this criterion.

   a. Training affects job satisfaction
   b. Student selection of vocational education is a free choice
   c. Student selection of vocational education is one he/she continues to think is a good one.

4. That impact of training on job satisfaction is constant and consistent.

5. Measurement is valid and reliable.

Small Group D
18 Members

Small Group Response to Paper by Kievit

A. Introduction

In addition to the audiences mentioned by Dr. Kievit, the group identified two additional audiences: the media because of their impact on public relations, and the employer, who is the key to the system. The group suggested the following student expectations for a vocational education program.

1. Freedom to have a choice
    a. of program
    b. of career

2. Develop saleable skills

3. Achievement and success (important in student value system)

4. Recognition

5. Acceptance by peers

6. May enroll because course is popular (auto mechanics)

7. May be taking a vocational education course because it is the only alternative to a total academic program. (Example given: Kansas, 187 schools which offer agriculture as the only available vocational course)

It was indicated that postsecondary students are more mobile than secondary students and therefore may have more freedom to choose vocational courses.

B. Outcomes Students Need to Know

The group then discussed competencies students need to have. Competencies suggested were:

1. Awareness of labor market

2. Job opportunities in the field desired

3. Predictions for possible future employment

4. Competencies demanded by the job

5. Supply and demand data

There was a lack of total agreement on the answer to the question: "to what extent should students know in advance the competencies necessary." Also, the group disagreed on "good" students get jobs.

Other points and/or questions brought out by the group were:

1. Is it possible that when students are learning skills, that they also learn about job opportunities, etc.?

2. The job information should be made available to the student prior to enrollment in the vocational program.

3. Students are not locked into a vocational program. They may change fields late in the program.

4. How can the data system give credit to the vocational education program when a student finds he/she is not suited for that occupation and makes a wise decision to change? Example given: nursing field. This should not count as a failure.

There was consensus that former students should be asked if they achieved what they expected to and if they are satisfied.

Some members of the group felt that competencies should not be measured at the end of the program unless they were measured at the beginning of the program.

Some of the small group participants felt that if vocational education is to consider the values of students we need to know what students expect then, we need to find out if students are satisfied. Those who disagreed noted that adolescent student expectations may not always be correct according to the values held by society, that adult input may affect student values, and that student values change as the student becomes more mature. One example given of possible change in job satisfaction was if a young man's girl friend moved to another town, he could become dissatisfied with the job because of this factor.

C. Employability vs. Employment

The group expressed concern on how to rank "employability" as an important outcome. Quite a discussion ensued on "employability" versus "employment." The group agreed that employability and employment are not the same and should not be used interchangeably. They indicated that employability is a function of education, is a major factor in program design, includes a whole package of attitudes, skills and competencies, and helps to determine if the product of the vocational program has become a saleable commodity.

The question then arose regarding how employers look at this. "Students will have to become assets, not liabilities." To what extent do employers have to be satisfied? What is success? Is it 100 percent? Can students satisfy employers 70 percent, 40 percent? How can we define the "level of success?" Could we aggregate data, see where we are today, then determine percent of increase? If today is 35 percent, could we move up to 50 percent? How could one account for the total number of students involved if this system were used? Employers are concerned with the "effectiveness" of the person hired.

For one group of students at a given time, a certain number were employed. How does one determine if this is good, bad or indifferent? The cost analyst and the vocational teacher would look at the data differently. Should we be satisfied if employers are satisfied with one out of three students employed? Employers want students who have a good attitude and are willing to work. The employers answers may differ; however, one may find that when talking with the personnel director attitudes are stressed and that when talking with the assembly line foreperson skills are stressed.

Some significant discussion centered around the federal law, its regulations, and how we should respond to it. A point was made that we should discuss vocational education philosophy and make it paramount rather than always referring to federal regulations and law.

D. Packaging Information for Various Audiences

Considerable discussion centered on packaging information for each audience--students, parents, counselors, members of Congress, employers, etc.

It appears the same data can be collected and packaged differently. It was noted that vocational education needs to work on improving public relations. Properly used data could be a great asset in improved public relations.

One group member reported that a congressman had recently requested anecdotal type information, such as "Is the student on co-op program? How much money was earned? How did this affect the economy of the community?" It was thought that if Congress had good anecdotal information, case studies, or testimonials about what goes on in his/her district, and if some of this were published, it might have more impact than all the numerical, statistical-type data.

E. Packaging Information for Federal Legislators

The final statement was--legislators respond to organized pressure that can affect votes--numerical data could back this up.

Small Group E
13 Members

Small Group Response to the Paper by Kievit

A. Areas of Agreement

1. Expectation (values) of students when they elect vocational programs may vary from that of administrator or parent.

2. "Placement" criteria will not apply to postsecondary students who want to progress rather than place.

3. Definition of "student" is central problem in evaluation.

4. Paradox is trying to define vocational education so as to fit federal funding rather than in the broad context of occupational training.

5. Mistake to use "youth unemployment" argument to gain support for vocational education because it will haunt us during evaluation.

6. Be pragmatic in reporting data to Congress.

7. Evaluative conclusions must be related to other factors, e.g., labor market, economy.

8. Any competency measures must be based on realistic objectives.

B. Areas of Disagreement

1. Whether to use placement and/or/nor competency as measure of effectiveness.

2. Vocational education should (should not) accept goals other than job training, e.g., self-concept, attitude, etc.

3. Vocational education does (does not) have an image problem.

C. Areas of Further Consideration

1. Problem of short-term gain (CETA) as opposed to long-term gain (vocational education). Which philosophy do we adopt and defend?

2. What are the expectations of the various publics we cater to?

3. What is "relatedness?"

4. Is charge to serve special populations counter-productive?

5. Are we claiming too much or too little for vocational education in our public relations efforts?

6. Where does public relations fit into presentation of evaluative results to various publics?

Small Group Response to the Paper by Venn

A. Areas of Agreement

1. Academic students should be compared to vocational students. However, one should consider--

    a. methodological problems,
    b. intervening variables,
    c. variance in vocational problems,
    d. problem of defining "treatment" provided by vocational program, and
    e. problem of selection into each type of program.

2. Purpose--goals--evaluative criteria form a definite continuum in vocational education.

3. We really have not decided what vocational education is; therefore, how can we evaluate or compare it to other areas?

4. In setting criteria, we need to consider the individual differences of each student.

B. Areas of Disagreement

No areas of disagreement were recorded.

C. Areas of Further Consideration

1. Should the goals for vocational education emphasize economic development or student interests, needs. The answer varies by state and locality.

2. One criterion of vocational education might be improvement in basic skills.

3. Is vocational education considered a separate program or simply a component of the overall educational system?

Areas for Additional Research and Development in Interpreting Outcome Measures for Vocational Education

A. Clarify implications of new legislation for evaluation.

B. Develop instrument to allow noneducators to evaluate vocational education.

C. Clarify vocational education, purposes, goals, and objectives.

D. What is a comprehensive program of vocational education? How does it fit into overall education system?

E. How do characteristics of entering students affect success?

F. Examine concepts that have served to influence legislative decision making.

G. Clarify definitions.

H. Develop national measuring scale.

I. Communications from vocational education to outside audiences (power groups).

J. Aspiration vs. expectations of different audiences.

K. Evaluative criteria and methods that concentrate on quality.

L. Ways to assess outcomes from a variety of perspectives.

M. Are we a "method of teaching" or a "discipline" in vocational education?

N. Ways to convince public that vocational education is a mainline activity.

O. Are educational managers trained to administer vocational education programs?

P. Effective ways (methods) of teaching vocational education.

Small Group F
16 Members

Small Group Response to Paper by Drewes

A. Concerns of Group

1. How to deal with outcome of student, concerns for employment and unemployment factors.

2. Present data too general, specific data too costly.
3. Need for standardized definitions.
4. Need for participation of labor.
5. Placement not crucial, need to develop students; job is means not end.
6. Need for standardization system of collecting placement data across states.
7. Data needs at federal and local levels different.
8. Will VEDS generate good data?
9. Vocational education has multiple and conflicting goals.
10. Collection data for compliance reduces its effectiveness.

Small Group Response to Papers by Venn and Billings

A. Why Are We on the Defensive?

1. Congress has challenged us.
2. Are we overreacting?
3. Can vocational education impact all social ills (unemployment, minority equity)?

B. Report to the President

1. Information from states
2. Conflict: brief report or an exhaustive report
3. Reports from states, some poor
4. Local data also very shaky
5. Still compliance

C. What Is Vocational Education

1. Multidisciplines a curse (one opinion)
2. Multilevel, i.e., secondary, postsecondary, adult

    3. Employment and training vs. human perspective

- D. Definitional Problems
    1. Vocational education vs. occupational education (occupational, vocational, technical, career)
    2. Titles
- E. Vocational Education Needs a Taxonomy
- F. Where Does Problem (Vocational Education Lack of Leadership) Lie?
    1. SDE/teacher education/local schools
- G. Local Level Perspective
    1. Confusion
    2. Decisions can be made at local level
- H. USOE Data
    1. 1976 legislation based on 71-72 data
    2. 1976 summary data not too useful in 1979-80-81 planning
- I. Hurdles in Utilizing Data
    1. Are data helpful? (They probably are not, locally.)
- J. Evaluative Research (crucial)
    1. Determining net effect of vocational training.
    2. Comparison data.
    3. Will this type of data have any effect locally?
    4. A growing up process.
    5. Effect of vocational education on productivity.
    6. Conception issues raised by psychologists.
- K. Political Considerations
    1. Must become politically astute and stop all the philosophy about definitions.

L. Systematic Evaluation Needed

  1. Evaluation process must have a system, especially for states who are just beginning.

M. Invasion of Privacy

  1. VEDS data, will it invade privacy?

N. Outcome Data

  1. Concern over lack of input or feedback on ongoing research to develop evaluation models.
  2. Where are we to look for direction.
  3. Concern that all research comes from one source. Regional research is needed.

OPTIONAL TOUR

Through the cooperation of Billy Howard, Kentucky Assistant Superintendent for Vocational Education; Bill Evans, Director of Vocational Education, Kentucky Region Six; and James Woodrow, Principal Jefferson State Vocational-Technical School and Manpower Skill Center, two optional tours of the Jefferson State School were provided for the conference participants.

Located within the inner-city of Louisville, the Jefferson School was completed in August 1977 at a cost of nearly ten million dollars. The school has 157,000 square feet of floor space and is designed for 3000 students. The school is offering twenty-six vocational-technical programs.

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CONFERENCE EVALUATION

The conference staff designed an instrument to evaluate the variety of activities at the conference. The instrument is shown in Figure 2. The evaluation instrument was part of a notebook of materials the participants received when they registered. Participants were asked to complete the evaluation instrument and return it to the conference staff. Early leavers were also encouraged to complete the instrument. A total of seventy evaluation instruments were returned.

The evaluation of the conference will be reported in the following five sections:

1. conference planning and implementation
2. presentations
3. small group sessions
4. the objectives of the conference
5. general comments and recommendations

Figure 2

Conference Evaluation Instrument

NATIONAL CONFERENCE ON OUTCOME MEASURES FOR VOCATIONAL EDUCATION

August 16-18, 1978

CONFERENCE EVALUATION

Provide your candid responses to the following questions about the conference. The information will be used to provide feedback to conference planners and presenters to improve future endeavors.

BACKGROUND INFORMATION

Check your major responsibility.

____State director of vocational education
____Local director of vocational education
State Advisory Council
    ____Staff
    ____Member
____Vocational planning and evaluation coordinator
____Placement director/counselor
____Vocational program specialist
____Vocational teacher educator
____RCU director/specialist
____Other (specify) ______________________________

Figure 2, Continued

CONFERENCE PLANNING AND IMPLEMENTATION

Please rate the overall quality of the individual areas of the conference as compared to typical professional development conferences you have attended.	Quality				
	Excellent	Good	Average	Fair	Poor
1. Pre-conference information					
2. Meeting facilities					
3. Room accommodations					
4. Meals					
a. Reception					
b. Dinner Banquet					
c. Luncheons					
5. Conference organization and operation					
6. Usefulness of conference materials					
7. General sessions					
8. Small group sessions					
9. Conference as a whole					
10. Conference location (Louisville)					

Comments: ____

____

____

Figure 2, Continued

PRESENTATIONS

Please rate the effectiveness of the presenter and the quality of the content presented by placing a check (✓) in the most appropriate box in each column.

Effectiveness of Presenter						Quality of Content				
Excellent	Good	Average	Fair	Poor	Presentation	Excellent	Good	Average	Fair	Poor
					1. A National Problem: Interpreting Outcome Measures in Vocational Education					
					2. Perspectivism in Choosing and Interpreting Outcome Measures in Vocational Education					
					3. Evaluating Vocational Education: A Congressional Perspective					
					4. Outcome Standardization for Compliance or Direction: The Critical Distinction					
					5. Job Satisfaction and Performance Measures: The State-of-the-Art					
					6. Instruments for Measuring Job Satisfaction and Job Performance					
					7. Analysis of Extant Data Bases in Vocational Education					
					8. Report of Project Case Study Findings					
					9. Criteria Against Which Vocational Education Should Be Held Accountable					

Comments: ______________________________

Figure 2, Continued

SMALL GROUP SESSIONS

Please rate the effectiveness of the interaction that took place in each of the small group sessions in terms of the objectives of the session.

Objectives of Session	Quality of Interaction				
	Excellent	Good	Average	Fair	Poor
To analyze and prepare reactions to the presentations by Morgan, Kievit, Jennings and Drewes.					
To analyze and prepare reactions to the presentations by Billings, Venn, Gray, McCaslin and McKinney.					
To develop suggestions for assisting various audiences to interpret outcome measures in vocational education.					

Comments:

OBJECTIVES

How effectively did the conference meet its objectives? Did the conference assist you to:

	Extremely Well		Adequately		Not at All
1. Identify and explain the problems and issues concerning the interpretation of vocational education outcome measures?	5	4	3	2	1
2. Identify alternative criteria for determining vocational education outcomes?	5	4	3	2	1
3. Develop a rationale for the selection of alternative criteria for determining vocational education outcomes?	5	4	3	2	1

Figure 2, Continued

	Extremely Well		Adequately		Not at All
4. Analyze the consequences of having standardized vocational education outcome measures?	5	4	3	2	1
5. Identify the needs of significant audiences concerning vocational education outcome measures?	5	4	3	2	1
6. Develop recommendations for future research and development activity concerning vocational education outcome measures?	5	5	3	2	1

COMMENTS AND RECOMMENDATIONS

1. What were the stronger features of the conference?

2. What were the weaker features of the conference?

3. What suggestions would you make for improving a conference of this type?

CONFERENCE PLANNING AND IMPLEMENTATION

Ten dimensions of the conference planning and implementation were rated by the participants using a five point scale (excellent/good/average/fair/poor). Room accommodations received the highest ratings with 100 percent of the responses in the excellent and good categories. Preconference information received the lowest rating. Summaries of the ratings for each of the ten dimensions are shown in Table 3.

The following comments were received concerning conference planning and implementation:

> The diversity of backgrounds of participants made it difficult to secure agreement on issues in the small group sessions.
>
> Usefulness of conference minimal as my state already has a system.
>
> Excellent planning for conference.
>
> Excellent facilities for conference.
>
> Well organized, very good time framework, interesting topics, and certainly a timely and informative conference.
>
> Appreciated lodging within walking access to the city.
>
> Conference dwelt too heavily upon philosophy and did not develop guidelines for measurement of vocational education program outcomes.
>
> Small group sessions too highly structured--no room for personal input.

PRESENTATIONS

The effectiveness of the presenters is revealed in Table 4. As can be noted, very few presenters received ratings in the fair and poor categories.

The nine presentations were rated in terms of the quality of the content of the material presented using a five-point scale (excellent/good/average/fair/poor). In all instances far more than half of the ratings of all presentations were either excellent or good.

Table 3

Percent of Participants Rating Quality of Conference Planning and Implementation

Conference Planning and Implementation	Quality				
	Excellent	Good	Average	Fair	Poor
1. Preconference information	19	44	15	12	10
2. Meeting facilities	66	25	9	0	0
3. Room accommodations	84	16	0	0	0
4. Meals					
a. Reception	55	29	8	5	3
b. Dinner Banquet	55	38	5	2	0
c. Luncheons	62	35	3	0	0
5. Conference organization and operation	52	44	4	0	0
6. Usefulness of conference materials	42	47	11	0	0
7. General sessions	29	55	16	0	0
8. Small group sessions	26	43	19	7	5
9. Conference as a whole	37	57	6	0	0
10. Conference location (Louisville)	54	33	7	6	0

Table 4

Percent of Participants Rating Effectiveness of Presenters and Quality of Content

Effectiveness of Presenter						Quality of Content				
Excellent	Good	Average	Fair	Poor	Presentation	Excellent	Good	Average	Fair	Poor
14	54	23	6	3	1. A National Problem: Interpreting Outcome Measures in Vocational Education	16	53	22	6	3
26	45	22	6	1	2. Perspectivism in Choosing and Interpreting Outcome Measures in Vocational Education	29	44	21	6	0
60	29	7	4	0	3. Evaluating Vocational Education: A Congressional Perspective	48	36	13	3	0
24	40	30	6	0	4. Outcome Standardization for Compliance or Direction: The Critical Distinction	24	53	16	7	0
12	50	31	7	0	5. Job Satisfaction and Performance Measures: The State-of-the-Art	13	50	32	5	0
19	46	22	13	0	6. Instruments for Measuring Job Satisfaction and Job Performance	17	54	22	7	0
20	47	25	8	0	7. Analysis of Extant Data Bases in Vocational Education	14	51	29	6	0
20	47	23	8	2	8. Report of Project Case Study Findings	19	52	24	3	2
50	39	8	3	0	9. Criteria Against Which Vocational Education Should Be Held Accountable	55	35	10	0	0

The following comments were received concerning the effectiveness of the presenters and the quality of the content of the presentations.

> It would have been helpful to have more information on the ideas concerning how to measure outcomes, evaluation models being developed by NIE, Contract Research Corporation, etc.
>
> Some of the papers required study before presentation.
>
> Any one of the presentations could have been better explored and understood as a conference in themselves. I marvel that so much was accomplished in so little time and am thankful for the printed materials provided.
>
> Presenters should have the opportunity to respond to reactors.
>
> Good reactors, well chosen small group leaders and recorders.

SMALL GROUP SESSIONS

Three objectives of the small group sessions were rated by the participants using a five point scale (excellent/good/average/fair/poor). Instructions on the evaluation instrument asked the respondents to rate the objectives in terms of the effectiveness of the interaction that took place in the small group sessions.

The second objective (to analyze and prepare reactions to the presentations by Billings, Venn, Gray, McCaslin, and McKinney) received the highest ratings with 29 percent being excellent and 45 percent being good and no responses falling within the poor category.

The third objective (to develop suggestions for assisting various audiences to interpret outcome measures in vocational education) received the second highest ranking with 6 percent being excellent and 48 percent being good.

The first objective (to analyze and prepare reactions to the presentations of Morgan, Kievit, Jennings, and Drewes) ranked third with ratings of 9 percent excellent, 38 percent good, and 36 percent average. Table 5 summarizes the quality of the interactions of the small groups.

Table 5

Percent of Participants Rating the Effectiveness of the Interaction for the Small Group Sessions

Objectives of Session	Quality of Interaction				
	Excellent	Good	Average	Fair	Poor
To analyze and prepare reactions to the presentations by Morgan, Kievit, Jennings and Drewes.	9	38	36	11	16
To analyze and prepare reactions to the presentations by Billings, Venn, Gray, McCaslin, and McKinney.	29	45	13	13	0
To develop suggestions for assisting various audiences to interpret outcome measures in vocational education.	6	48	23	17	6

The following comments were received concerning the quality of the interaction in the small groups.

Time too limited.

Not enough structure provided by leaders.

Too much structure provided by the leaders.

Need for better trained leaders.

Suggest speakers circulate among small groups.

Need to spend more time getting acquainted with other group members.

More time should have been spent on developing standard measuring sticks and definitions.

The backgrounds of the small group participants were so diverse that it was difficult for participants to work effectively together.

THE OBJECTIVES OF THE CONFERENCE

The participants were asked to rate how effectively the conference met its objectives using a five point Likert-type scale. Table 6 summarizes the participants' ratings of the conference objectives. The conference objectives are placed in rank order according to the ratings by participants.

COMMENTS AND RECOMMENDATIONS

Three questions were asked in this section of the evaluation form. Each question was open-ended and will be reported on separately.

One of the questions was, "What were the stronger features of the conference?" The responses centered on three features: organization, presenters, and printed materials. Positive comments on the organization were most frequent. One statement appeared to sum up the feelings of all of the respondents who listed organization as a strong feature. This statement said, "This has been one of the best organized meetings I have ever attended. The agenda, as distributed, was held to, meetings started on time, and sessions were paced well and unhurried."

Table 6

Percent of Participants Rating the Objectives of the Conference

Conference Objectives	Extremely Well		Adequately		Not At All
	5	4	3	2	1
1. Identify and explain the problems and issues concerning the interpretation of vocational education outcome measures.	28	49	18	4	0
2. Identify alternative criteria for determining vocational education outcomes.	10	36	34	19	1
3. Develop a rationale for the selection of alternative criteria for determining vocational education outcomes.	6	28	46	19	1
4. Analyze the consequences of having standardized vocational education outcome measures.	10	28	43	12	7
5. Identify the needs of significant audiences concerning vocational education outcome measures.	8	30	39	17	6
6. Develop recommendations for future research and development activity concerning vocational education outcome measures.	14	22	35	24	5

Presenters were the next most frequently mentioned strong feature of the conference, and printed materials was the third strongest feature of the conference. Small group interactions, conference facilities, and the choice of topics for the conference received favorable comments from the participants.

Another question that was asked was, "What were the weaker features of the conference?" Small groups were criticized most often. The criticism of the small groups centered mainly on the shortness of time and the lack of structure given by leaders. The next two most frequently criticized features were the presenters and the lack of solutions presented at the conference. Presenters were criticized for reading their material and attempting to present too much material in the time allotted.

The following suggestions were provided in response to the question, "What suggestions would you make for improving a conference of this type?"

It is a difficult area to deal with--felt the conference staff did as well as could be done.

Include more varieties of people, e.g., legislators, Department of Labor, handicapped, ethnic minorities, etc.

Distribute papers before formal presentations or if possible, send to participants a week before conference.

Need for more interaction among participants.

More focus on "what to do" instead of "should we do."

Fewer general session presenters and reactors with more time being given to the ones selected.

Have presenters circulate among small groups.

SUMMARY

The conference was evaluated by seventy participants. Not all participants responded to each item. Therefore, data reported are given in percentages to allow comparisons among items.

The overall results were as follows:

1. The conference planning and implementation were generally rated highly. Room accommodations ranked first with 100 percent of responses falling in the excellent and good categories. Preconference materials ranked lowest with 63 percent falling in the excellent and good categories, 27 percent in the average category, and 10 percent in the poor category.

2. The presenters were rated in terms of (a) their effectiveness and (b) the quality of the content of their presentation. All speakers received over 60 percent of their ratings in both categories (effectiveness and quality of content) in the excellent and good categories. Therefore, it was concluded that all speakers were highly effective.

3. The small group sessions were rated lower than the presenters. The lowest rated objective (objective one) had just under 50 percent in the excellent and good categories. Objective two had 74 percent in the excellent and good categories and objective one had 54 percent in the excellent and good categories. Comments indicated that limited time and low group structure interfered with group interaction.

4. The objectives of the conference were ranked using the five point Likert-type scale. The objectives ranked as follows:

   - Identify and explain the problems and issues concerning the interpretation of vocational education outcome measures.

   - Identify alternative criteria for determining vocational education outcomes.

   - Analyze the consequences of having standardized vocational education outcome measures.

- Develop a rationale for the selection of alternative criteria for determining vocational education outcomes.

- Identify the needs of significant audiences concerning vocational education outcome measures.

- Develop recommendations for future research and development activity concerning vocational education outcome measures.

5. Comments and recommendations given by participants indicated that organization, presenters, and written materials were the strongest features of the conference; the functioning of the small groups, the presenters, and lack of solutions to problems discussed were the weakest features of the conference; and a more diverse population, distribution of papers before presentations, increased interaction among participants, more focus on "what to do," fewer presenters going into more depth, and having presenters available to small groups for questions were the recommendations given most often.

V. VOCATIONAL EDUCATION MEASURES: INSTRUMENTS TO SURVEY FORMER STUDENTS AND THEIR EMPLOYERS

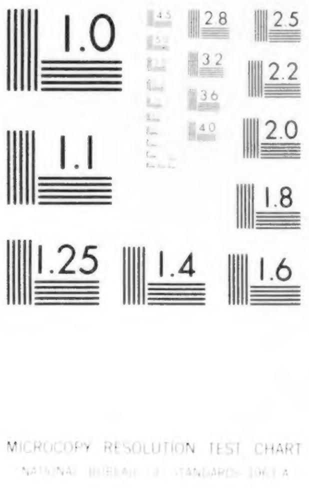
NEED FOR THE PUBLICATION

The National Institute of Education and the National Center for Research in Vocational Education identified the need for information on methods and instruments available to collect data on alternative outcome measures in vocational education. The need for the handbook resulted from (1) the Vocational Education Amendments of 1976 which required additional information concerning the outcomes of vocational education, (2) the concern for accountability, (3) the concern for the individual student presently surfacing within the American culture, (4) dissatisfaction with placement data as the sole criterion measure of the success of vocational education programs, and (5) the lack of availability of a similar compendium of instruments. In response to this need, a handbook titled Vocational Education Measures: Instruments to Survey Former Students and Their Employers was developed. It is designed to provide to vocational educators an assortment of instruments currently available for use.

PROCEDURES FOLLOWED IN CONCEPTUALIZING THE PUBLICATION

Immediately following the decision to produce a handbook of instruments helpful to vocational educators on alternative outcome measures in vocational education, the decision was made to collect instruments in four major categories. The four categories are as follows:

1. Job Satisfaction. Instruments which have items that are purported to measure employees' perceptions of their satisfaction with components of their job (e.g., pay, promotions, supervision, co-workers, and work) and in which the sum of the scores across components yields an overall job satisfaction measure. (Instruments which only have questions to measure overall job satisfaction were not included.)


1.0
4.5
5.0
5.6
6.3
7.1
8.0
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.1
1.8
1.25
1.4
1.6
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

2. Job Performance. Instruments which have items that are purported to measure the performance of employees in the various dimensions/components of employment (e.g., knowledge, skills, attitudes, and work attendance) as perceived by the employer. (Instruments which only have questions to measure overall employee performance were not included.)

3. Perception of Training by Former Student. Instruments which have items that are purported to measure the perceptions of former students regarding the adequacy of components of their training program (e.g., facilities and equipment, competencies acquired, and placement services). (Instruments which only have questions on the overall adequacy of the training program were not included.)

4. Perception of Training by Employer. Instruments which have items that are purported to measure the effectiveness of components of preparation and training for employment (e.g., knowledge and skill areas) as perceived by an employer of persons who recently completed a job training program. (Instruments which only have questions to measure overall adequacy of preparation and training programs were not included.)

With these four categories in mind, the project staff solicited instruments currently in use in these four categories from (1) vocational education research coordinating unit directors in all fifty states, (2) directors of vocational education in 200 large cities of the nation, (3) industrial psychologists in selected major universities and industrial companies, and (4) professional organizations in industry including SIMCON and Mayflower. The staff also searched computerized data bases including (1) central ERIC and the clearinghouses serving career education, community junior colleges, and tests and measures; (2) the library of the National Center for Research in Vocational Education; (3) dissertation abstracts; (4) psychological abstracts; and (5) sociological abstracts for copies of instruments. Instrument source books such as Buros Mental Measurement Handbook were also reviewed for possible instruments.

The criteria used to describe the types of instruments being requested and selected for the handbook were (a) instruments which meet the description of one or more of the four instruments listed above, and (b) instruments which could be read and understood by a former high school student.

Copyrighted instruments were included, but a notation was made on each copyrighted instrument that the instrument should not be copied, duplicated or used without written permission from the publisher. These criteria were employed to help assure that the handbook would be useful to practitioners and researchers in vocational education and related fields. This basic search strategy enabled the project staff to collect a large number of instruments from a great variety of institutional and individual settings across the country.

Once obtained, the instruments and accompanying documents or materials were abstracted by project staff to help prospective users to assess each instrument. The abstracts were forwarded to the developer or publisher for additions, deletions, or corrections. A written approval was requested before the abstracts and instruments were included in the publication. Thirty-six instruments were abstracted and included in the handbook.

Some of the instruments that were obtained by the project staff are not included in the handbook. Instruments were eliminated if (1) they failed to meet at least one of the selection criteria, (2) they were largely duplicative of another instrument, and (3) if permission to print the instrument was not received from the developer/publisher.

An abstract format was developed and as a result instruments that appear in the handbook are in a uniform format that facilitates efficient use of the handbook. A copy of the format of the abstract used to describe each of the instruments reviewed in the handbook is shown in Figure 3. Figure 4 shows the format of the abstract and includes the definitions.

The abstracts serve the purpose of summarizing pertinent information for each instrument. The abstracts also serve to operationalize chapter three of the handbook, "How to Use this Handbook." In chapter three, a series of questions are presented to the reader in an attempt to lead the practitioner through a forced-choice decision-making process that would help clarify goals and objectives and lead to a wise choice of an instrument(s).

Figure 3

Format of Abstract Used to Describe Each Instrument Reviewed in Handbook

TITLE OF INSTRUMENT:

DEVELOPER OF INSTRUMENT:

DATE:

AVAILABILITY:

For Further Information:
Cost:
ERIC:

DESCRIPTION OF INSTRUMENT:

Purpose:
Content:
Number of Items:
Type of Items:
Intended Population:
Respondent:

ADMINISTRATION:

When Administered:
How Administered:
Time Recommended:
Response Mode:
Scoring:

TEST DATA:

Reliability:
Validity:

COMMENTS:

Figure 4

Definitions Used in Abstracting Information for the Handbook

TITLE OF INSTRUMENT:	The title of the instrument as it was reported in the materials sent to project staff or located in other sources. Secondary or subtitles are set off from the main title by a colon. When two or more instruments had the same title, differentiation was made by adding (in parentheses) the names of the agencies or authors and the dates developed.
DEVELOPER OF INSTRUMENT:	The full name of the individuals or agencies responsible for the development of the instrument.
DATE:	The year in which the instrument was prepared. When this information was not available the entry read, "not indicated." Copyrights are also noted in this section.
AVAILABILITY:	
For Further Information:	The full mailing address of an individual or agency responsible for the development, publication, and distribution of the instrument or the complete bibliographical citation to the literature.
Cost:	The cost of the instrument to individuals requesting it. In most instances, when the instrument is not available on a commercial basis, the user should expect to pay normal reproduction costs. (In many instances, agencies were reluctant to place specific costs on their materials due to the unknown pricing factors that may affect their agency.)
ERIC:	The accession number for documents which have been placed in ERIC.

Figure 4, Continued

DESCRIPTION OF INSTRUMENT:

Purpose:	A brief description (usually one or two sentences) that explain what the instrument was designed to assess.
Content:	Either a listing of the subfactors of the instrument or two or three representative items to help identify the nature of the content.
Number of Items:	The total number of items on each instrument. A listing of the number of items in each subfactor will also be indicated where appropriate.
Type of Items:	The kind of items (e.g., true-false, multiple choice, Likert-type responses, dichotomous choice, etc.) included in the measure.
Intended Population:	The audience (e.g., students, former students, employees, employers, etc.) that the measure was designed to assess.
Respondent:	The person (e.g., student, former student, teacher, employee, employer) who completes the instrument.

ADMINISTRATION:

When Administered:	The time (date) suggested to administer the instrument relative to enrollment (e.g., upon enrolling in vocational program), graduation (one year after graduation), or employment (e.g., employed in a job for four months). If not identified the entry reads, "not indicated."
How Administered:	The manner in which an instrument was designed to be administered (e.g., by mail, telephone interview, face to face interview, or in group setting). If not identified the entry reads, "not indicated."

Figure 4, Continued

Time Recommended:	The number of minutes that should be allowed for completing the measure. If not identified the entry reads, "not indicated."
Response Mode:	The way in which individuals provide responses to items included on the measure (e.g., paper-pencil, individual answer sheets, consumable booklets, etc.). If not identified the entry reads, "not indicated."
Scoring:	Scoring refers to both (1) the mathematical procedure for calculating individual scores (e.g., simple summation, weighted responses, etc.) and (2) the physical method of scoring the tests (e.g., hand scoring, optical scanning, etc.). Information on the availability and cost of scoring services, when available, is also provided in this section. When not identified the entry reads, "not indicated."
TEST DATA:	
Reliability:	Information related to the consistency (dependability) with which a set of data measure whatever they do measure. If not identified the entry reads, "not indicated."
Validity:	The accuracy with which a set of data measure what they are said to measure. If not identified the entry reads, "not indicated."
COMMENTS:	Any related information regarding materials or background information associated with the follow-up measures, which was not included in previous sections, is incorporated here.

PROCEDURES FOLLOWED IN COMPILING THE HANDBOOK

The handbook is composed of four chapters, an appendix, and a series of indices. Each of these divisions will be reviewed.

CHAPTER ONE

Chapter one is an introduction to the handbook. In this chapter, the need for the publication is explained, the procedure for developing the handbook is outlined, and the limitations of the handbook are given.

CHAPTER TWO

Chapter two, "Job Satisfaction and Performance Measures: The State of the Art," was written by Robert S. Billings of the Department of Psychology at The Ohio State University. Dr. Billings has done extensive research and teaching in the area of job satisfaction and job performance.

In chapter three, job satisfaction is defined as:

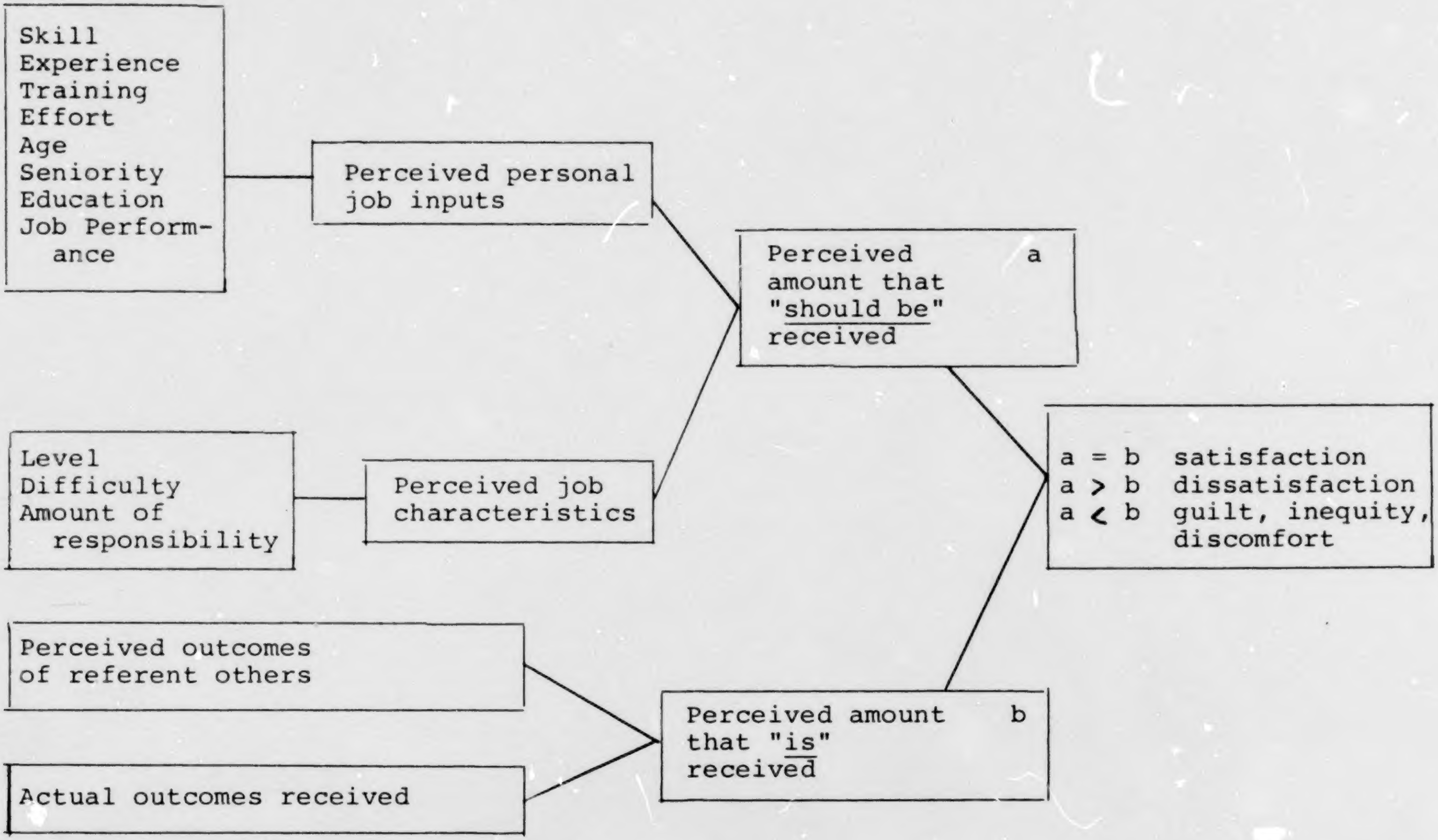
> The affective orientation toward or emotional reaction to the job (or various components of the job) resulting from the appraisal or evaluation of one's job or job experience (Lawler 1973, Locke 1976).

This definition emphasizes two interrelated points: (1) job satisfaction is a feeling or an emotion and (2) the feeling of satisfaction is derived from a (more or less) careful evaluation of one's job. Three models of job satisfaction are described: Lawler's component model, person environment fit model, and the met expectations model.

The Lawler model shown in Figure 5 suggests that the amount of job satisfaction results from an evaluation of the job (i.e., satisfaction with one's job is a function of the discrepancy between what the person feels should be and what is seen as existing). Pay is an example. An employee would be dissatisfied with pay if the employee felt she/he should be compensated more than she/he received; if the "should be" and "is" were in balance, the employee would be satisfied. If the pay received was greater than the employee believed she/he should get, a feeling of "guilt" or "overcompensation" results. This example

Figure 5

Lawler's Model of the Determinants of Satisfaction with Outcomes


Skill
Experience
Training
Effort
Age
Seniority
Education
Job Performance
Perceived personal job inputs
Perceived amount that "should be" received
a
Level
Difficulty
Amount of responsibility
Perceived job characteristics
a = b satisfaction
a > b dissatisfaction
a < b guilt, inequity, discomfort
Perceived outcomes of referent others
Actual outcomes received
Perceived amount that "is" received
b

Lawler, E. E. Motivation in Work Organizations. Belmont, CA: Wadsworth Publishing, 1973.

emphasizes the point that the "should be" and "is" part of the model are perceptions and are not necessarily objective or accurate. As the diagram of the model indicates, the perceived amounts of what "should be" and what "is" are a function of other factors. Perceived "should be" is the result of perceived personal job inputs and perceived job characteristics. These in turn are the result of a variety of factors listed on the diagram. Perceived "is" is the result of perceived outcomes of referent others and actual outcomes received. The Lawler model has received a fair amount of empirical support.

The person/environment model is also discussed. It states that a person would be satisfied with the job situation if it fits his/her values, skills, needs, abilities, and goals. Dissatisfaction results from a poor fit in either direction. For example, if a job was either more or less challenging than the individual desires, then satisfaction would be low.

While the person/environment fit model does not necessarily conflict with the Lawler model, it does produce a somewhat different focus. Occupational and job choice become important considerations, and, as explored in detail below, vocational education could be predicted to increase satisfaction if it increased the person/environment fit.

The third model presented, called met expectations, focuses on employee expectations. In this model, the prospective employee has a set of expectations about what the job should offer. If these expectations are not met, then dissatisfaction and, eventually, turnover results. This model is not as useful as Lawler's because the causes of expectations are not explored.

The following four possible effects of job satisfaction on vocational education are noted in chapter two:

1. Vocational education might lead to better jobs for graduates, better job outcomes, and higher satisfaction. This argument rested on an important assumption--that "better jobs" were available and were more likely to be obtained following good vocational education, as compared to poor training or none at all. If related jobs were available or if the chances of getting related jobs was not improved by vocational education, then this hypothesis would not be born out. An implication was that increased job satisfaction might depend just

as much on the job and labor markets as on the quality of vocational education.

2. Better vocational education might lead to a better fit between the person and the job. This hypothesis might be viewed as a corollary of the first hypothesis; if vocational education led to increased job possibilities, then presumably students could select the job which best fit their needs, abilities, and motivations. However, good vocational training might provide a realistic preview of the job or occupation, allowing students to decide if that occupation fit their needs before taking the job. An interesting implication of this point was that, in some cases, it might be a good outcome if an individual did not go into the occupation intended; if the fit between the individual and the job was not going to be good, it might be best to learn this during training and not after job placement.

3. Vocational education might decrease job satisfaction by increasing perceived inputs without affecting perceived outcomes. In other words, vocational education might increase the level of aspiration for most, if not all, work outcomes. The paradoxical conclusion was that better training might lead to lower satisfaction--if the heightened aspirations or "should be's" were not matched by the perceived level of outcomes.

4. The effects of vocational education on job satisfaction might be small, due to the many causes of satisfaction. Although vocational education might affect some job inputs and might indirectly affect some outcomes through job placement, there were a number of other variables which would also affect these determinants of job satisfaction. In addition, vocational education might increase the satisfaction with some components, have no effects on others, and decrease satisfaction with yet other components, due to the increased aspiration mechanism discussed above. To

> the extent that these effects may occur in a different fashion for different individuals, the overall effects of vocational education on a sample of employees may be very complex and difficult to discover.

Job satisfaction is not the only job attitude which is important or for which instruments have been developed. Some additional attitudes were:

1. Intrinsic motivation--defined as the degree to which a job holder is motivated to perform well because of some subjective rewards or feeling that she/he expected to receive or experience as a result of performing well.
2. Job involvement--defined as psychological identification with one's work; the degree to which the job situation is central to the person and her/his identity.
3. Beliefs about work in general such as the five different belief systems identified by Bucholz* (1978):
    - a. The work ethic. Work is good and bestows dignity; hard work leads to success.
    - b. The organizational belief system. Work takes on meaning only as it affects the organization and one's status within the organization; success comes from conforming to group norms.
    - c. The humanistic belief system. Work is how people fulfill themselves; jobs should be redesigned to satisfy higher-order needs.
    - d. Marxist-related beliefs. Work is necessary for fulfillment, but the capitalistic systems does not allow this, because workers have no control.

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*R. A. Bucholz, "An Empirical Study of Contemporary Beliefs about Work in American Society," _Journal of Applied Psychology_ 63 (1978): 219-227.

e. The leisure ethic. Work is necessary, but can never be fulfilling; because fulfillment comes from leisure activities; work should require less time than it does.

In chapter two, it is noted that job performance is a more complex variable than job satisfaction. Job performance is not seen as one concept, but rather as a whole cluster of dimensions. The chapter notes that when job performance is measured, it is usually assessed along some number of dimensions, which often include such things as the following: quality, quantity, skills, technical knowledge, ability to work without supervision, attendance, punctuality, cooperation, communication skills, problem solving skills, teamwork, interpersonal skills, safety, good attitudes, and initiative, among others.

There is no one current list of job performance dimensions for all jobs. The ideal approach is to do a complete job analysis for a specific job and derive an instrument for that job. At the other extreme, a small set of very general dimensions could be applied to any and all jobs. A manageable middle ground is to select an instrument specifically developed for the job being assessed or a similar job. Another approach is to select an instrument which contained dimensions believed to be meaningful, as judged by someone familiar with the job.

Job performance is generally thought of as determined by three basic variables: motivation or effort, skill level, and role conception. Effort (how hard the employee works) and skill level (whether or not the employee has the skills to do the job) are self-explanatory. Role conception refers to the employee's idea about what should be done on the job or how the role should be played. If an employee has an incorrect notion of how the job should be done or what activities constitute high performance, then actual performance will be low, even though the employee might have the abilities and be working hard.

These three determinants of job performance are thought to combine multiplicatively in affecting performance. That is, if one variable is very low, then performance will be low. Total lack of job skills means low performance, no matter how much effort is put into the work. If the motivation is lacking, then performance will be low, no matter what the skill level or role concept. In order to analyze the possible effects of vocational education on job performance, we must determine which of these three factors might be altered by vocational training. Billings notes two possible effects of vocational education on job performance.

1. There are many causes of job performance.

This seemingly obvious point must not be forgotten, for it implies that the effects of even very good vocational education would be difficult to discern because of "error variance." If all the extraneous factors could be controlled (e.g., individual motives, job characteristics, organizational reward systems, underlying aptitudes, job experience, other training), then the effects of vocational education could be easily and unambiguously determined. In any real life study, these uncontrolled factors may create so much "noise" that no effects can be seen.

2. There are several ways in which vocational education may affect job performance.

On a brighter note, this analysis suggests several possible mechanisms through which vocational education could affect job performance: increased motivation, better job skills, and knowing what the role entails.

In summary, chapter two contains a word of advice on the selection of research designs. The "ideal" true experiment is discussed and reference is made to the impossibility of carrying out a true experiment. Contrasting the job satisfaction of a group of vocational education students with the job satisfaction of their nonvocational education co-workers is presented as the best possible alternative design. A second suggested design is to contrast former vocational education students with former nonvocational education students using measures of individual characteristics such as age, years on job, etc. A third alternative is presented: the contrast of vocational education students against standardized measures of job classification or demographic categories. A fourth suggestion is to combine several of these alternative strategies to offset the strengths and weaknesses of each.

CHAPTER THREE

Chapter three, "How to Use This Handbook," is an attempt to help the practitioner determine his/her objectives quickly and select an appropriate instrument. Chapter three contains a four-cell matrix of the four categories of instruments contained in the handbook. The matrix illustrates that the four categories match the respondent (either former student or employer) and what was being evaluated (present job or vocational education training). Figure 6 illustrates the four cell matrix and indicates color codes used to differentiate instruments (color codes for instruments are in parentheses in each cell. Chapter three also presents the abstract format already described in this report (see Figures 3 and 4).

In addition, chapter three describes the use of single and double asterisks that may appear in the upper right hand corner of the abstracts. A single asterisk signals the user of the handbook that an instrument contains items that measure aspects of both vocational training and job. Double asterisks indicate that the instruments are part of a series of instruments. The name of the companion instruments appear in brackets below the double asterisks.

The bulk of chapter three is concerned with walking the user through a series of questions that are designed to help clarify the user's objectives and eliminate all but a few instruments for final selection. The series of eleven questions are built around the pertinent information summarized in the abstract of each instrument.

The eleven questions are:

1. Do I wish to gather information from former vocational education students or from employers?
2. Do I wish to gather information concerning facets of the present job or concerning the previous vocational education training program?
3. Do I want to locate instruments that survey both employers and former students using instruments that are designed to be used together?
4. Generally, what is the nature of the information I want to collect?
5. How many items does the instrument contain, what type of items are used, what instructions are given to the respondent, and how long will it take the respondent to complete the instrument?

6. When should the instrument be administered?

7. How do I want to administer the instrument (e.g., via mail survey, telephone interview, in a group setting, etc.)?

8. What paperwork will be involved for both the respondent and the evaluator? How much will the evaluation cost?

9. How valid is the measure?

10. How reliable is the measure?

11. What other information is available on each instrument to help me better understand its development and use?

Figure 6

Four Divisions of Instruments
Contained in the Handbook

Evaluation of:	Respondent	
	Former Student	Employer
Present Job	Job Satisfaction (blue)	Job Performance (yellow)
Vocational Education	Former Student's Perception of Training (green)	Employer's Perception of Training (orange)

CHAPTER FOUR

Chapter four is the actual presentation of the instruments along with their respective abstracts. The instruments appear in four colors: blue, yellow, green, and orange. These colors correspond to the four categories as previously indicated in Figure 6.

Instruments might appear under more than one category. This happens when an instrument measures aspects of both the job and vocational education training. Under this condition the instrument appears twice and has a single asterisk in the upper right hand corner.

Instruments might also appear with double asterisks which, as previously described, indicate that they form a series of instruments. The names of companion instruments appear in brackets below the double asterisks.

The copyrighted instruments have been protected by overlay printing of "DO NOT COPY" and a reference to request the publisher for copies and information.

The appendix contains three related instruments all of which are part of a series of instruments. They are included to present the full intent of the instrument package of which they were part.

Five indices are included in the handbook to help the user readily locate instruments. The indices list the 36 individual instruments by: (1) author of instrument, (2) title of instrument, (3) category of instrument, (4) instruments forming a series (instruments with a double asterisk), and (5) instruments on which validity and/or reliability have been established.

APPENDIX

METHODS AND PROCEDURES FOR CONDUCTING THE CASE STUDY

This section will describe the methods and procedures for conducting the case study of differences in job placement rates reported by states. Specifically, it will further describe the issue areas discussed in the body of the report, and the data collection and data analysis used in the study.

ISSUE AREAS

ASSUMPTIONS

In considering the differences associated with placement rates reported by states, the following assumptions were made:

- There are a large number of factors contributing to the difference in placement rates.
- All of the factors contributing to the difference in placement rates cannot be addressed in this study.
- There must be a logical and clear set of criteria by which to focus on the important issue areas concerning placement data.

The assumptions provided the foundation for the effort described herein. For example, the first assumption is simply a self-evident truth that the number of factors having some impact on placement rates is endless. It quickly becomes obvious that there must be overall logic and criteria in limiting the number of issue areas upon which the study could focus.

The overall logic for focusing the case study was derived from an attempt to view candidate variance phenomena associated with placement data within the context of overall vocational education evaluation. Given that this context is very large and the relationship among placement data phenomena are not well understood, it was necessary to identify and use criteria in screening or selecting the phenomena to be addressed by the study. These phenomena were expressed in issue areas. The logic and criteria used in determining issue areas are shown in Figure 7.

CRITERIA FOR SELECTING ISSUE AREAS

The major evaluation elements of vocational education evaluation were viewed as delineating (designing), collecting, and providing data for making decisions. The four criteria of centrality, persistence, feasibility, and pervasiveness were used to select the evaluation (placement data) issue areas used in the case study.

1. Centrality

   The issue selected had to appear to be at the core of the problem. For example, it was thought that the definition of terms was central to the determination of placement rates.

2. Persistence

   The issues had to appear to be those which were having current impact as well as enduring impact. For example, lack of computer support is a problem that may not be long-range in nature.

3. Feasibility

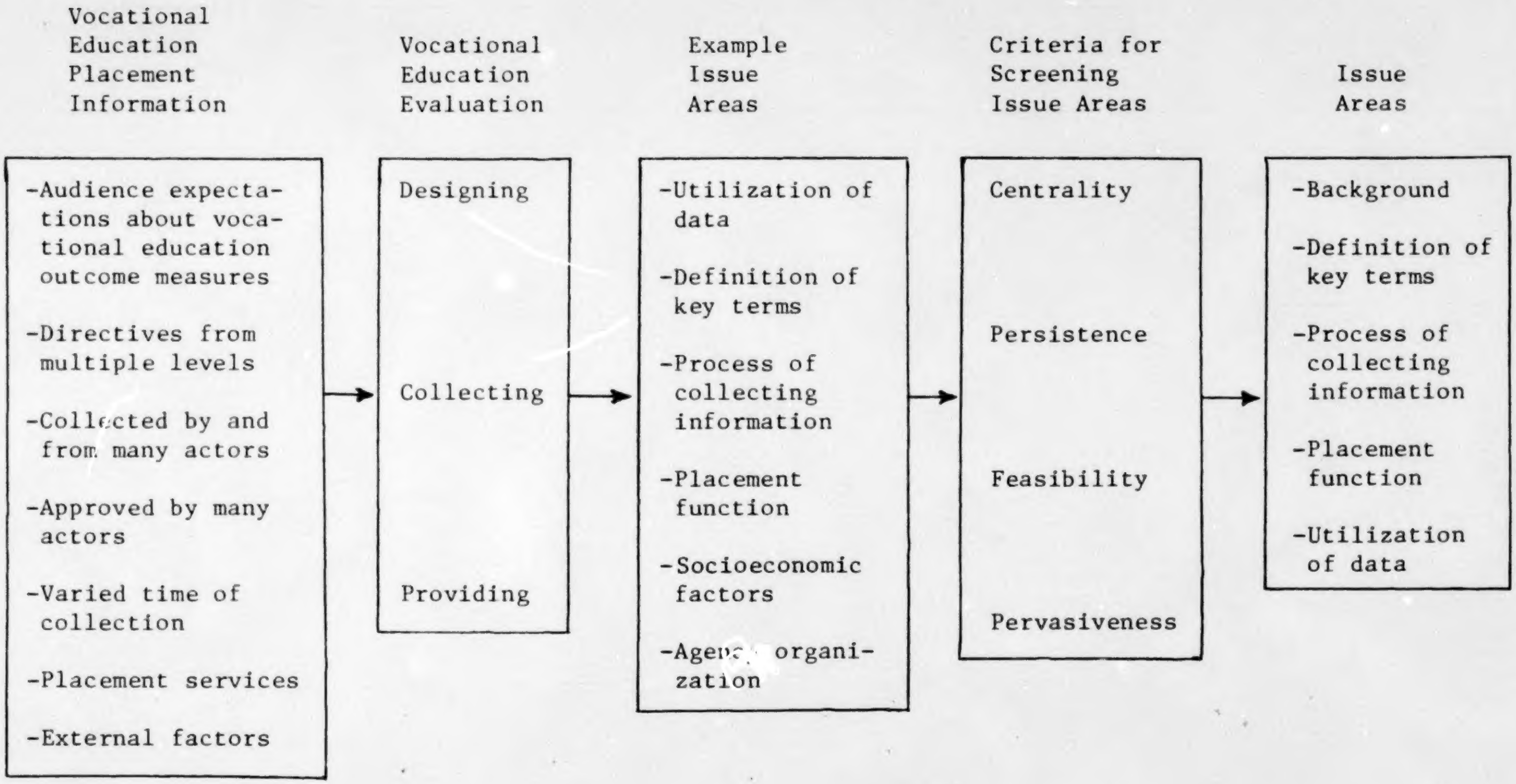
   One could not ignore the practical matter of whether or not an area would lend itself to investigation. If the proposed issue area was one of great political significance or of a jurisdictional nature it may not have been feasible for the National Center to provide adequate attention to this issue area. In addition, the limited resources available for this phase of the project prohibited the selection of all possible issue areas.

4. Pervasiveness

   The issue areas selected had to be areas that show promise of being widespread and not limited to a small number of states.

Figure 7

Overview of Logic and Criteria Used in Determining Issue Areas


Vocational Education Placement Information
-Audience expectations about vocational education outcome measures
-Directives from multiple levels
-Collected by and from many actors
-Approved by many actors
-Varied time of collection
-Placement services
-External factors
Vocational Education Evaluation
Designing
Collecting
Providing
Example Issue Areas
-Utilization of data
-Definition of key terms
-Process of collecting information
-Placement function
-Socioeconomic factors
-Agency organization
Criteria for Screening Issue Areas
Centrality
Persistence
Feasibility
Pervasiveness
Issue Areas
-Background
-Definition of key terms
-Process of collecting information
-Placement function
-Utilization of data

The four criteria listed above were used to select issue areas that were addressed by the study.

ISSUE AREAS SELECTED

The criteria discussed above provided the rationale for selecting issue areas to be addressed by the study and for rejecting other issue areas. The issue areas and the rationale for selecting and rejecting candidate issue areas follow.

Background

The background or context within which vocational education is conducted may vary considerably across states and may affect the delivery and evaluation of vocational education programs. The priority and approach to the delivery of vocational education may be addressed at the secondary, postsecondary, and adult levels through the existing comprehensive educational institutions, or through specialized area vocational education schools or centers at the secondary level and technical institutes or other specialized schools at the postsecondary level. State vocational education leadership is organizationally located in the state department of education under the state board of education or under a separate board of education. The role of the state agency in enforcing the state and federal rules and regulations and/or providing creative leadership receives varying levels of emphasis across states. Evaluation may be viewed and treated as a requirement for compliance purposes or as a means to improve local and state programs and program services. Financing of vocational education includes local, state, and federal support in varying percentages depending on the tax and financial initiatives of each local school district and each state.

The unemployment rate varies across local areas and may influence placement of vocational students. Perhaps placement is less difficult in areas with low unemployment and more difficult in areas of high unemployment. Some of the central, pervasive, and persistent aspects of background which accounted for its selection as an issue area were the delivery system for vocational education, the state organizational structure, the level and sources of financial support, the percentage of students enrolled in vocational education, the attitudes toward evaluation at the local and state levels, the regulatory versus leadership postures of the state agency, and the level of unemployment in the state. In addition, describing these factors through document reviews and on-site interview discussions was feasible.

Definition of Key Terms

Definitions of terms associated with vocational education follow-up data, e.g., student, leaver, completer, relatedness of employment to training received, and levels of education, and the use of the definitions were critical to the collection of accurate follow-up data. Attempts have been made at the federal, state, and local levels to define the key terms.

The definition for key terms generally emerge over time, first, as developing concepts of educational practices in a wide array of levels, geographic, social, and economic settings; and second, through formal development by legislators and other educational policy makers aided by administrators and other practitioners. This process occurs independently across selected local schools and state divisions of vocational education within varying time frames. The Congress and federal agencies participate in the development of many definitions which are to be used in the collection and reporting of follow-up data. The definitions developed at the national level must be communicated to persons at federal, state, and local levels who are to use the definitions instead of earlier developed concepts and definitions. Communication of the definition within and across levels requires time and careful effort to accomplish. Further, definitions may be used only when completing federal reports, for other special purposes, or for all information purposes. These differences in the use of definitions focus on the need to evaluate the accuracy and consistency with which definitions are used in the collection of vocational education follow-up data. The development, communication, and use of definitions associated with vocational education placement data were selected as an issue area for explaining differences in follow-up data because of the centrality of the area to placement data, the persistence of the problem over time, the pervasiveness of definitions to vocational education, and the high feasibility that variation in the use of definitions could be documented.

Process of Collecting Placement Data

The process of collecting vocational education placement information involves many actors and conditions. In some situations information on placement and relatedness is supplied by students and in other situations it may be supplied by teachers, administrators, counselors, supervisors or secretaries. It would appear that all of these individuals might approach such a task from very different perspectives and orientations resulting in considerable differences in reported data. Some agencies prepare detailed guidelines for data reporting, others have very limited guidelines. The technical assistance, including monitoring, available to agency personnel appears to vary greatly in its appropriateness, depth and timeliness. It appeared that the resources available to conduct information collection activities would contribute substantially to the adequacy and accuracy of placement data. The process of collecting information was pervasive to the field of vocational education. It was feasible to study the effects the process of collecting information had on different placement rates, as it could be observed both through dialogue with the actors and reviews of related documents. The process will continue as a persistent and central concern to the total evaluation efforts of vocational education.

Placement Function

The function of job placement has been emerging as a responsibility of schools and continues to be debated as to whether it is in fact a responsibility that is to be performed totally by the school, supported by the school but performed by other agencies, or not to be supported by the school. The position taken by a local or state vocational education agency on the placement function may be central to the differences in placement rates. The strategies and resources used by an agency for placement purposes will indicate the relative importance given to school placement services. The placement concern is pervasive as it is a national concern expressed in federal legislation for more than a decade. It is perceived as a concern that will persist over the foreseeable future. The placement issue area seemed feasible to be addressed as it could be studied by means of a written description of placement services and by interviews with key and related personnel.

Utilization of Placement Data

Data on employment placement of students has become a central and persistent concern in the evaluation of vocational education. Placement data became the principal means of evaluating program effectiveness in vocational education with the passage of the Vocational Education Act of 1963 and continues as an evaluation requirement of the Education Amendments of 1976. While placement data have been legislatively designated as an overall measure of the program effectiveness, specific interpretations of program strengths and needs are made from this data by state and local administrators, and others in areas such as the effectiveness of teachers, the curricula, the planning process, and the placement services. These and other "targeted" interpretations of placement data were believed to be the basis for funding decisions, personnel reward structures and other management decisions. The specific utilization of the data is speculated to be an influence on the data reported, particularly where individual judgments are required or are optional. The feasibility of identifying the various uses of the placement data was strong but challenging as there are both implicit and explicit implications to be addressed. Variations in uses of data were believed to pervade the entire vocational education community.

ISSUE AREAS NOT SELECTED FOR INVESTIGATION

The issue areas not selected for investigation were: (1) socioeconomic factors and (2) in-depth examination of state agency organization. There can be little doubt that these two issue areas are important and may contribute to the differences in placement rates. The chief reason for not investigating socioeconomic and agency organization factors as issue areas was the anticipated length of time it would take to make a proper investigation of the areas. It was not feasible from a project resource availability viewpoint to include these factors. It was also very probable that agency organizations are so different from state to state that it would be difficult to explain without greater study than the project could perform.

SUMMARY

The issue areas addressed in the study were:

Issue Area I: Background

Issue Area II: Definitions of Key Terms

Issue Area III: Process of Collecting Placement Data

Issue Area IV: Placement Function

Issue Area V: Utilization of Data

More specific questions addressed for each issue area follow.

QUESTIONS ADDRESSED BY EACH ISSUE AREA

The specific questions addressed by each issue area are listed below.

Questions for Issue Area I: Background

1. What is the delivery system for education in the state?
    a. Number of school systems
    b. Vocational education
        (1) Adult
        (2) Postsecondary
        (3) Secondary
    c. State education organizational structure
        (1) State department of education
        (2) Relationship of vocational education to education
        (3) Political relationships of education to state government and other significant power blocks.

2. What is the relative level of financial support for vocational education by sources?
    a. Federal
    b. State
    c. Local

3. What is the attitude of the state department of education/vocational education toward evaluation?

4. What is the attitude of local education agencies toward vocational education evaluation?

5. What percent of the vocational education students are enrolled in cooperative education programs?

6. Is the state department of vocational education viewed as a leadership or regulatory agency?

7. What problems are associated with the background and content?

8. What is the general employment condition for the state?

9. What is the employment experience of the interviewee that is important to interpreting his/her interview data?

Questions for Issue Area II: Definition of Key Terms

1. Background/Introduction

2. What are the official definitions for the following vocational education key terms:

    a. Student/enrollee
        (1) secondary
        (2) vocational service area (including courses)
    b. Completer
        (1) secondary
        (2) vocational service area (including courses)
    c. Leaver
        (1) secondary
        (2) vocational service area (including courses)
    d. Dropout
        (1) secondary
        (2) vocational service area (including courses)
    e. Relatedness of employment to training
        (1) secondary
        (2) vocational service area (including courses)
    f. Occupational titles
        (1) What do you use?

3. What definitions for the key terms are used in collecting vocational education placement data?

4. What are the sources and influences contributing to the formation of definitions?

    a. Legislation
    b. Rules and regulations
    c. State and local plans
    d. Information systems
        (1) VEDS
        (2) MISVE

   e. National Association of State Directors of Vocational Education
   f. NOIC and SOIC

5. What strategies are used to communicate definitions of key terms?

   a. Written instructions
   b. Workshops/conferences
   c. Monitoring efforts
   d. Other

6. Has the use of definitions been monitored or evaluated?

   a. How?
   b. When, by whom and with what result?
   c. Are reports available concerning the evaluation effort?
   d. Are evaluation results used to improve the use of definitions?

7. What problems are encountered in the use of definitions?

Questions for Issue Area III:

Process of Collecting Placement Data

1. Background/Introduction

2. Please describe the process of planning and conducting placement studies?

   a. Objectives
   b. Schedule
   c. Actors

3. Does your agency have a policy regarding placement studies?

   a. What is the policy?
   b. Written? Non-written?
   c. How has it evolved or changed over the past three or four years?
   d. In what form does it exist and how is it distributed?
   e. Who is responsible for its development?
   f. If no policy, why not?

4. Are there specific procedural guidelines for planning and conducting placement studies recommended and/or utilized in your agency?

    IF YES
    - a. Who develops them?
    - b. In what form do they exist and how are they distributed?
    - c. How have they changed or evolved over the past three or four years?
    - d. If you have procedural guidelines, what difference would it make if you did not have them and vice versa?
    - e. What specific guidelines exist for determining who should be classified as a vocational education student?
    - f. What specific guidelines exist for determining whether or not a job held by a former student is related to the individual's vocational training?

    IF NO
    - g. Why are procedural guidelines not used?

5. Is assistance made available for planning and conducting placement studies?

    IF YES
    - a. What agency provides the technical assistance?
    - b. What form does technical assistance take?
    - c. Is the technical assistance perspective typically compliance or program oriented?
    - d. What difference would it make if technical assistance for planning and conducting placement studies were not provided?

    IF NO
    - e. Why is there no technical assistance?
    - f. What difference would it make if technical assistance for planning and conducting placement studies were provided?

6. What is the basic SEA administrative role in planning and conducting local placement studies?

    - a. Does the SEA set requirements, make recommendations, or simply monitor?
    - b. How and why has the SEA role in planning and conducting local placement studies changed or evolved over the past three to four years?
    - c. What should the SEA role be and why?

7. Have there been any problems or difficulties with conducting placement studies with respect to:
    a. Its purpose?
    b. Operation--carrying it out?
    c. Resources (budget, personnel, etc.)?
    d. Timing
    e. Implementation or utilization?
    f. Determining who is a vocational education student?
    g. Determining relatedness of vocational training and job held by former student?

8. Does your agency have any plans for new approaches or changes for conducting placement studies as they are currently conducted? If yes, please explain.
    a. Who and/or what brought these about? How will they improve or change matters? What was/is the SEA role in this instance?
    b. If no, is there anything you or others would like to see changed in the future concerning placement studies? What for instance? What mitigates against such change now? How would such changes improve placement studies?

9. Who in this agency seems to be primarily responsible for the placement study activity?
    a. What is their role in the agency?
    b. Who do they report to?
    c. How do they relate to other (if any) vocational education activities?
    d. Are there others, here or elsewhere, who play (or have played) an important role in how follow-up is conducted and its results utilized?

10. What is the annual resource allocation for placement studies in your agency?
    a. Is this adequate? If not, what is needed?
    b. Has the resource allocation been changed in the past three to four years? How and why?
    c. Who makes these decisions?

11. Has the placement study effort been monitored or evaluated in your agency?
    a. When, by whom and with what results?
    b. Are reports available concerning the evaluation effort?

    c. Are reports used in planning and decision making? How? Specific use?

12. Has there been any external influence or input regarding placement studies from:

    a. Office of Education
    b. U.S.O.E. Regional Office
    c. Advisory Councils
    d. National Associations
    e. Other

Questions for Issue Area IV: Placement Function

1. Background/Introduction

2. To what extent is the need for a placement function reflected in the state's philosophy of vocational education?

3. Is state coordination provided for the placement function?

4. What placement services are available at various levels?

5. Describe how the placement service operates in your agency.

6. What resources are made available for operating placement services?

    a. Financial support (relative support, level of support, source of support)
    b. Staffing
    c. Job ranks

7. Nature and extent of cooperation with other agencies.

Questions for Issue Area V: Utilization Data

1. Background/Introduction

2. Is placement data disseminated to significant audiences?

    a. What procedures and format are used to disseminate placement data?
    b. What procedures are used to assist the audiences to interpret placement data?

3. Is data collection viewed as a compliance effort or as an effort to improve programs? Explain and give example.

   a. How do you view the federal legislative requirement for placement studies?
   b. How do you view the SEA policy on placement studies?

4. Are placement data used implicitly or explicitly for:

   a. Personnel evaluation?
   b. Program evaluation
      (1) program continuation?
      (2) program expansion?
      (3) new program approval?
      (4) equipment update?
      (5) curriculum changes?
      (6) personnel development?
   c. Program monitoring?

DATA SOURCES AND COLLECTION

DATA SOURCES

The sources of data were documents of state and local agencies and personal interviews with administrators and staff of those agencies. The section below describes the types of documents that were obtained and reviewed and types of interviewees from whom data were obtained.

Documents

From the five participating states documents were requested which the project staff perceived to be related to the issue areas. Additional documents which the state staff perceived to be related to one of the issue areas were also requested. The specific list of documents requested by the staff follows:

1. State plan for vocational education 1974-75, 1975-76, 1976-77, and 1977-78.

2. Current organizational chart.

3. State legislation for or affecting vocational education (at the secondary and postsecondary levels for full-time and part-time students including adult students).

4. Current state level policy handbooks and manuals which set forth operating policies and procedures, particularly those related to placement and follow-up.

5. Annual reports (descriptive) provided to the U.S. Office of Education for 1974 through 1977.

6. Evaluation reports of state vocational education program offerings prepared by the state division of vocational education, state advisory council for vocational education and other agencies, e.g., state legislature, commissions and ad hoc groups (from 1974 to 1977).

7. Instruments used to conduct a survey of follow-up students and the accompanying instructional sheet and training manuals plus any transmittal memos (from 1974 to 1977).

8. Important memoranda and correspondence related to student placement that the state deemed essential for the National Center interview team to understand.

9. Other documents and materials related to student placement.

The documents were obtained prior to the interviews, were reviewed, and all relevant data were recorded for project and interview purposes. This process helped to provide project staff with an understanding of the context and many aspects of the placement data concerns that were addressed in the interviews.

Interviewees

Interviews were conducted with state and local staff engaged in vocational education and representatives of the U.S. Office of Education, Bureau of Occupational and Adult Education. Project staff selected state interviewees by reviewing the state's organizational chart and selecting persons who were involved in (1) overall vocational education management, (2) collection of placement data, (3) program supervision, and (4) others who influence or have an interest in the placement processes, e.g., state advisory council, cooperating placement agencies. Using these criteria, the state contact person was asked to review the project staff's selection of interviewees and recommend other interviewees who might have perspectives on the state placement data.

Selection of interviewees at the two local education agencies was based on these criteria: (1) a minimum of four to six persons to interview per school, (2) a range of high to low involvement in placement data, (3) involvement in vocational education administration, guidance, and teaching roles.

Representatives of the U.S. Office of Education, Bureau of Occupational and Adult Education who were interviewed included those concerned with (1) overall vocational education management, (2) collection of placement reports from the states, and (3) program staff.

DATA COLLECTION

Data collection activities consisted of preparing an interview manual to guide the collection of data; training interviewers to conduct interviews and record data from documents; interviewing federal, state, and local staff; reviewing documents; and writing up interview notes.

Interview Manual

An interview manual was developed by and for use of project staff to assure that quality and consistent data were (1) collected from the documents reviewed and persons interviewed and (2) recorded in a manner to be easily retrieved and analyzed. The manual consisted of:

1. List of questions which were central to an investigation of each issue area.
2. A key/code word list from the questions in each issue area that interviewers could use to check off points as they were covered in the interview.
3. The specific data that would answer each question and whether the data could be obtained from a document, an interviewee, or both.
4. Coding procedures. Coding procedures consisted of coding information on cards with holes around the four sides of the card to permit sorting with a needle. This process provided quick

identification and sorting of data by topic and other identifiers such as:

   a. Issue area
   b. Question within issue area
   c. State
   d. Local school
   e. Federal
   f. Interviewee
   g. Interviewer
   h. Document

5. Master list of interviewees by state.

The interview manual was used as the interviewers' guide for collecting and recording data and was the core material used in training project staff to serve as interviewers.

Training Interviewers

Staff who served as interviewers in the collection of data were Floyd McKinney, Kenney Gray, Marie Abram, Steve Franchak, and N. L. McCaslin. Training was provided for the staff in two workshops for interviewers and a pilot test of the interview processes and techniques in the middle state and two local education agencies.

Workshops

The objectives for the first staff workshop were to

1. review and critique research assertions for the case study,

2. identify and justify issue areas,

3. select issue areas of the case study,

4. identify specific questions to be addressed for each issue area,

5. establish calendar for conducting the case study, and

6. determine detailed plans for conducting the pilot case study.

The objectives of the second staff workshop were to familiarize interviewers with

1. techniques for interviewing,
2. specific data required to answer each question,
3. techniques for recording information during the interview,
4. techniques for summarizing notes during the site visits and following the interview,
5. techniques for recording information on index cards (cards referenced earlier with holes around perimeter of card to facilitate needle sorting of cards),
6. techniques for writing report,
7. outline of case study final report,
8. arrangements and schedule for pilot state visit, and
9. procedures to be used in contacting and scheduling interviews in federal, state, and local agencies.

Project staff prepared materials and resources in advance of each workshop thus enabling the time interviewers spent together to be productive and efficient. The interview manual, texts on interviews, and supporting materials are examples of the materials used in the workshop.

Further training was provided by conducting a simulated interview with a former director of vocational education in a large city school. The interview was conducted by one interviewer with the other interviewers observing and under the assumption that the recent vocational education director was functioning in his previous position and using real data. The planning for the workshop, the workshops themselves, and conducting the simluated interview were excellent preparation for the interviewers who were to collect data in many settings and circumstances. The workshops were followed by a pilot test of the interview and document data collection in a state division of vocational education and two local education agencies.

Pilot Test

The plans and techniques for interviewing and document review data collection were fully pilot tested in a state with middle level of placement of students in occupations related to their training. The key aspects of pilot test included the following elements.

1. Obtaining and reviewing related documents from the state vocational education agency.
2. Recording on index cards definitions and other information related to placement data.
3. Selecting interviewees from the state division of vocational education, two local education agencies, and the state advisory council for vocational education.
4. Prescheduling the interviews.
5. Conducting the interviews.
6. Writing up interview notes at the end of each interview day.
7. Typing the interview notes on index cards and punching appropriate identifying codes into side of card.
8. Analyzing the data.
9. Writing the findings and conclusions.
10. Reviewing the report of the case study.
11. Revising the plans and techniques as needed to improve the study in the high and low placement states and at the federal level.

The pilot test efforts were carried out smoothly with no modifications required in data to be collected, documents requested, time and sequence of interviews, data recording and write-up of interview notes, and the analysis of data.

Interviewing

Interviewing was prescheduled for times convenient to persons being interviewed. The interview schedule covered two to three days and began in each state with a general orientation meeting for the benefit of the persons being interviewed in the state division of vocational education and the interviewers. The orientation consisted of introduction of personnel, and overview of the case study, and a review of the state's vocational education delivery system. Nine to fifteen state staff persons were interviewed following the general orientation interviews. The individual interviews were about forty-five minutes each.

The interviews followed elite interviewing techniques (Dexter 1960), where the interviewer is willing and often eager to let the interviewee identify the problem, the question, and the situation. The basic approach taken was to inform interviewees of the data needed from them--namely their perspectives on placement data--how the interviewee understands it to be collected, used, and disseminated. As much freedom as possible was given to conversation as to get the true perspectives of the interviewee, untainted by interviewer's implicit communications as often revealed by a series of questions about factors that are good or not so good. In most interviews, it was one interviewee and one interviewer. Some aspects of interviewing which interviewers were trained to follow were:

1. let the interviewees do the talking

2. be a good listener

3. ask for examples and illustration of points made by interviewee

4. keep questions brief and to the point

5. let the interviewee go at his own rate

6. postpone tough questions until interview is well under way

7. use hypothetical adversary to flush out opinion and information

8. pursue and try to resolve discrepancies when they are perceived; however, never tell interviewees of perceived discrepancies

9. take notes during interview

Interviews in local education agencies consisted of one-to-one interviews for the most part with no group meetings as were held in the state vocational education agency. Interviews ranged from thirty to forty-five minutes in length with teachers and counselors. The shortest interviews were thirty minutes in length. Five to eight persons were interviewed in each of two local education agencies in each of the five participating states.

Five officials of the U.S. Office of Education, Bureau of Occupational and Adult Education were interviewed using the same techniques. Forty-five minutes were used for each of the federal interviews.

Documents that had not been previously obtained by interviewers were sometimes mentioned by interviewees. Review copies were obtained whenever possible and utilized to obtain complete data on an agency's placement data.

Writing of Interview Notes

About three hours near the end of each day were reserved in the schedule for each interviewer to write a statement on each interview. The statements by interview included (1) the narrative description of all the data gained in each interview and (2) coding of the paragraphs or subparts of the narrative description using the alpha and numeric coding schemes previously described. It was critical that this writing time be used as scheduled and that the writing of statements be fully accomplished at the end of each day as time and subsequent interviews dissipate an interviewer's memory of the conversation and meaning of the notes taken during an interview.

The written statements were subsequently typed on the index cards; data for a single code were placed on one card or a series of cards if more than one card were required. In the event that a data item related to more than one code, a separate card or series of cards were typed for each additional code and were coded separately. This permitted data to be retrieved quickly and to be grouped by issue areas as individual writers would write the findings within an issue area such as "definition of key terms used in placement data" using data for all participating states.

DATA ANALYSIS AND REPORTING

The data analysis was integrally linked to the specific questions in the issue areas. The approach taken in the analysis of the data emphasized a comparative treatment of the issue areas. Attention was focused on across-state analysis of the factors that were identified as potentially related to the differences in the reported job placement rates. The output of this activity was a comparative analysis or synthesis of each of the research issue area questions across the five states and the federal level.

Where appropriate, the data collected in the study were placed in a framework to provide graphic depiction. Comparisons were shown graphically across high, middle, and low placement states. Background and key findings are reported in the body of this document. All data analysis are reported in this report.